National health expenditures projections through 2030

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If current laws and practices continue, health expenditures in the United States will reach $1.7 trillion by the year 2000, an amount equal to 18.1 percent of the Nation's gross domestic product (GDP). By the year 2030, as America's baby boomers enter their seventies and eighties, health spending will top $16 trillion, or 32 percent of GDP. The projections presented here incorporate the assumptions and conclusions of the Medicare trustees in their 1992 report to Congress on the status of Medicare, and the 1992 President's budget estimates of Medicaid outlays.

Introduction

Continued growth of national health expenditures (NHE) has heightened Americans' anxieties regarding the future of health spending. Expenditures in 1990 are currently estimated to have been $666.2 billion (Levit et al., 1991), an amount equal to 12.1 percent of the Nation's gross domestic product (GDP). This spending, which doubled relative to GDP over the previous 25 years, occurred during a year in which 34.7 million Americans were uninsured for health care, and another 16.7 million relied solely upon Medicaid to pay for their care (Levit et al., 1992).

These concerns have lead to efforts to reform the way we provide and pay for the health care that has come to be seen as a basic right of all Americans. The administration has proposed a package of market-based reforms. Its package includes tax credits and deductions for low- and middle-income groups; Medicaid reforms for the poor; changes to private health insurance, such as open enrollment, risk pooling, and other small-market reforms; and control of costs through consumer choice, better information, increased use of coordinated care, and systemwide administrative and malpractice reform. Congress is considering a number of other legislative changes. Some would require businesses to broaden employer-sponsored insurance. Others would create a single-payer system similar to the Canadian plan. Yet others would extend existing programs such as Medicaid to cover a wider segment of the population.

At the same time that health coverage for the working-age population and the young has become the focus of a national debate, more attention also is being paid to the potential insolvency of health care insurance for the aged. The trust fund from which Medicare pays for hospital care is projected to be exhausted in the year 2002 (Board of Trustees, 1992); unless the Medicare payroll tax rate is doubled, the current level of benefits will need to be cut by one-half. The supplementary medical insurance (SMI) trust fund, from which Medicare pays for physician and outpatient services, is funded by general revenue and enrollee premiums and thus cannot become insolvent. However, SMI is projected to require more than $125 billion in general revenue by the year 2000, and enrollee premiums in that year are projected to be almost $700 per person, up from $380 in 1992 (Health Care Financing Administration, 1992).

State governments as well as the Federal Government are struggling with the rising cost of their health care programs. Medicaid expenditures in 1990 were one-third higher than they had been in 1988, and projections indicate growth of more than 30 percent per year over the next 2 years as well. States are caught in a double bind: The same recession that reduced their tax base increased the number of people eligible to receive Medicaid benefits.

The purpose of this article is to describe what might happen to NHE if current laws and practices continue. Actuaries in the Health Care Financing Administration (HCFA) have projected expenditures under the Medicare and Medicaid programs, but similar projections of the rest of the health care system are needed to complete the picture. The projections described in this article "wrap around" the actuaries' projections of Medicare and Medicaid, which together finance more than one-quarter of U.S. health expenditures. Thus, our projections incorporate assumptions adopted by the Medicare trustees concerning the rate of growth of the population and the economy. The results are a plausible scenario of what health expenditures in the United States might look like if existing programs remain unchanged. Such a scenario is in fact unlikely, because minor changes are made to Medicare and Medicaid almost continually, and major changes such as prospective payment and physician payment reform are made from time to time. Private sector adjustments to financing mechanisms are also continuous and will affect health expenditures in the long run. Potentially more important than any of these changes, however, is the current level of interest in major reform of the U.S. health care system. Such reform could alter fundamentally the whole nature of health expenditures. Our intent in this article is not to anticipate these reforms, but rather to present the "base case" with which expenditures under proposed reforms can be compared.

In the scenario we have constructed, health expenditures continue to account for an increasing share of our Nation's output. Highlights of this scenario, shown in greater detail in Tables 7-11, include the following:

- NHE rises to $1.7 trillion by the year 2000 and to $16.0 trillion in the year 2030.

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- Those figures imply an average annual growth rate of 10.1 percent in NHE from 1990 through the end of the century and a rate of 8.3 percent from 1990 to the year 2030. These rates may be compared with the 10.3-percent average covering the period 1980-90 and with the average annual growth of 11.7 percent that characterized the period 1965-90.
- With a long-term slowdown in the growth of GDP (attributable to demographic change), these growth rates will result in health expenditures that account for 18.1 percent of GDP in the year 2000 and 32.0 percent of GDP in 2030.
- The distribution of NHE among various types of providers will change relatively little over the next 40 years, shifting toward more nursing home care. The aging of the population will result in more reliance on government programs, specifically Medicare and Medicaid, in the future.
- Ignoring the effects of health price inflation, expenditures for health will grow 4.3 percent per year from 1990 through 2000 and 3.0 percent per year from 1990 through 2030. These "real growth" rates may be compared with annual averages of 3.4 percent for the 1980-90 period and 4.4 percent for the 1965-90 period.

In the remainder of this article, we present a brief overview of the projections model we used and then discuss the assumptions made concerning factors exogenous to the model. We discuss our projections, both from the standpoint of the types of services consumed and the sources of funds used to pay for care. Finally, we compare these projections with a similar exercise undertaken last year.

Projection model

General description

The model used to make the projections described in this article is essentially actuarial in nature. That is, we use trend analysis to project the future values of the factors underlying health expenditures. As has been described in detail in previous articles (Arnett et al., 1986; Division of National Cost Estimates, 1987; Sonnefeld et al., 1991), the model consists of a series of identity equations. In a typical identity, aggregate national expenditures for the services of a particular type of provider are broken down into seven factors. The factors reflect:

- Population.
- Economywide prices.
- Service-specific prices.
- Demographic change in the population as it affects use per capita.
- Demographic change in the population as it affects the intensity of services provided per unit of use.
- Use per capita, net of the effects of demographic change.
- A residual that roughly encompasses the intensity of services provided per unit of use, net of the effects of demographic change.

After projections have been made for all types of goods and services, the resulting total is compared with estimates made of the funds available for health spending through channels such as Medicare, Medicaid, and so on. We engage in an iterative reconciliation of expenditures by source of funds with expenditures by type of service until the projected figures balance. We also make side-by-side comparisons of our projections of related types of services (either complements or substitutes), to assure that the picture we have created of the health care system appears reasonable. The resulting scenario incorporates our best estimate of how health expenditures would grow under current laws.

Exogenous factors

Four of the seven factors are exogenous to the model. Two of them—population and economywide inflation—reflect the assumptions embedded in the Medicare and Old Age, Survivors, and Disability Insurance (OASDI) trust fund reports (Table 1). Our population projections have been prepared by the Social Security Administration actuaries and differ from estimates by the U.S. Bureau of the Census in the level of current population, in geographic scope, and in fertility, mortality, and immigration assumptions. From the economic assumptions that underlie the Medicare and OASDI reports, we have incorporated projections of the GDP price deflator, a measure of economywide prices.

The other two exogenous factors are those that reflect the effects of demographic change on spending for health. Because people of age 65 years or over spend four times as much per capita on health care as do people under the age of 65 (Waldo et al., 1989), we expect health expenditures to rise simply as a result of the aging of the U.S. population. To quantify that effect, we created indexes of use per capita and cost per capita for many of the services that comprise personal health care expenditures. To do so, we combined fixed expenditure and use weights from the 1977 National Medical Care Expenditure Survey (NMCES) and other surveys of health care use with information about the age and sex composition of each year's population.

Endogenous factors

Three factors are thus left to be estimated explicitly. The first is a measure of service prices relative to (or deflated by) the general economic price index. It captures demand-oriented inflationary pressures such as changes in income or in insurance status. It also captures cost-oriented factors such as labor shortages and provider pricing strategies (Freeland and Schendler, 1984).

The second endogenous factor is use per capita, net of the effects of the age-sex distribution of the population. The measure varies by type of service. For example, inpatient days are used to measure inpatient use, and outpatient visits are used to measure hospital outpatient use. For some services (such as non-prescription drugs), there is no convenient measure of use, and in these cases, the use-per-capita factor is

Table 1

Historical and projected gross domestic product and population: United States, selected years 1965-2030

Year	Gross domestic product			Population in thousands		
	Current dollars in billions	1987 dollars in billions	Implicit price deflator	Total	65 years of age or over	75 years of age or over
Historical						
1965	$703	$2,474	28.4	204,041	19,092	6,937
1975	1,586	3,222	49.2	224,545	23,265	9,102
1980	2,708	3,776	71.7	235,121	26,148	10,429
1985	4,039	4,280	94.4	247,049	29,033	11,983
1990	5,514	4,885	112.9	259,571	31,949	13,500
Projected						
1991	5,674	4,850	117.0	262,151	32,433	13,784
1992	5,909	4,922	120.1	264,685	32,894	14,084
1993	6,259	5,066	123.6	267,216	33,341	14,405
1995	7,069	5,332	132.6	272,046	34,108	15,022
2000	9,637	5,977	161.3	282,972	35,206	16,694
2010	17,238	7,222	238.8	302,483	39,550	18,084
2020	29,594	8,376	353.4	320,265	52,660	20,949
2030	49,936	9,548	523.2	333,461	67,044	29,958

SOURCE: Board of Trustees of the Old Age, Survivors, and Disability trust funds: The 1992 annual report of the board pursuant to section 201(c)(2) of the Social Security Act as amended. Social Security Administration. Apr. 1992.

mechanically set to unity throughout the projection period.

The third endogenous factor is identified as intensity, net of the effects of the age-sex distribution of the population. However, it could just as easily be called "real expenditure per unit of use." It reflects changes in technology and in the number and composition of services provided during a unit of service (for example, a hospital day). It also reflects changes in policy or regulation that affect the quantity and quality of resources used to produce a unit of service. It reflects differential changes in use by age-sex cohorts: The explicit age-sex factor is a fixed-weight index and does not reflect the effects of changes in access or coverage of various third-party programs. Because the intensity factor is calculated as a residual in the identity equation, it also accumulates the errors of measurement in other factors and the effects of all factors not explicitly identified elsewhere. For example, to the extent that the price measures do not accurately reflect prices received rather than prices charged, the intensity measure will incorporate some price effects. For those services for which no unit of service is defined, the intensity factor reflects real spending per capita net of the effects of age and sex.

Other factors

Our projection model has other constraints in addition to the exogenous factors just described. As mentioned earlier, the model incorporates estimates of Medicare and Medicaid expenditures; because virtually all hospital care provided to the aged population is financed through Medicare, the actuaries' estimates of the cost of that program directly affect the output of the projection model. In addition, we have taken into consideration the projections of health manpower made by the Bureau of Health Professions (Table 2). Trends in real revenue per practitioner were considered during the reconciliation process between estimates by channels of payment and by type of provider.

Long term versus short term

This year, we have extended our projections to 2030. There are several reasons for this: to show the impact of the aging of the population on health care spending and the sources available to finance that spending; to provide a context for the long-range Medicare program projections; and to show what implications future spending for health care will have on the Nation's ability to pay for that care.

Construction of a long-term scenario involves a slightly different approach than does construction of short-term projections. In a long-term scenario, things change at some steady-state or "ultimate" rate. In a short-term projection, recent experience has much more influence over growth. Reflecting these approaches, our projections consist of three phases: a short-term projection, a transition phase, and a long-term scenario. For each of the endogenous factors in the expenditure model, we assumed a continuation of recent trends through 1995. The period between 1995 and 2000 was used as a transition period to each factor's "ultimate" growth rate, which was then held constant for the remainder of the projection period. Generally, the ultimate rates are somewhat slower than those posted in recent historical trends.

Trends in exogenous factors

Real gross domestic product

The economy is projected to perform sluggishly through 1992 under the assumptions adopted by the Medicare trustees. Growth in real GDP (which is defined to exclude the effects of price change), which was 1.0 percent in 1990 and -0.7 percent in 1991, is

Table 2

Historical estimates and projections of the number of active physicians and dentists as of December 31: United States, selected years 1965-2030

Year	Active physicians			Dentists
	Total	Medical doctors	Doctors of osteopathy	
Historical				
1965	288,700	277,600	11,000	95,990
1975	384,400	370,400	14,100	112,450
1980	457,500	440,400	17,100	126,200
1986	544,530	521,130	23,400	143,000
1990	601,010	572,910	28,100	148,800
Projected				
1995	665,250	630,770	34,480	153,400
2000	725,930	684,950	40,980	154,500
2010	825,790	771,590	54,200	149,800
2020	875,950	811,440	64,510	138,500
2030	898,600	826,710	71,890	131,800

SOURCE: Bureau of Health Professions: Eighth Report to the President and Congress on the Status of Health Personnel in the United States. Health Resources and Services Administration, to be published.

projected to reach 1.4 percent in 1992. The economy is expected to rebound in 1993, then real GDP growth is projected to decline very gradually through the end of the projection period, from an annual rate of 2.9 percent in 1993 to 1.3 percent in 2030. Growth in productivity (real output per work-hour) is projected to remain steady over the projection period, so the secular decline in real GDP growth is attributable to demographic change in the U.S. population. The rate of population growth is projected to slow in the future, and with the aging of the population, the work force is projected to shrink as a percent of the total population.

Economywide price inflation

Following growth of 4.2 percent in 1990 and 3.6 percent in 1991, the GDP implicit price deflator is projected to grow 2.6 percent in 1992. The Medicare trustees have assumed that by 1996, economywide inflation will reach a rate of 4.0 percent per year, where it will remain through the end of the projection period.

Demographics

Total population growth is projected to slow from the average rate of 1.0 percent per year experienced from 1965 to 1990 to 0.6 percent per year from 1990 to 2030. In addition to an overall slowing of growth, the composition of the population will change dramatically during the 40-year period. Currently, 12.4 percent of the population is 65 years of age or over, and 5.3 percent is 75 years of age or over. By 2015, when the first of the postwar baby boom generation reaches age 65, those proportions increase to 14.6 percent and 6.0 percent, respectively. As the baby boomers enter their seventies and eighties, the population age 65 or over will comprise 20.1 percent of the total, with those 75 and over accounting for 9.0 percent.

Because the use of most health care services increases sharply with age, the change in the composition of the population will have a significant impact on health care spending. This effect can be calculated by imposing other years' population distributions on 1990 spending. Under this approach, both total population and age-sex-specific costs per capita are frozen at their 1990 levels.

Figure 1 shows the resulting hypothetical 1990 personal health care expenditures under the age-sex structures of 1950 and 2030. If the 1990 population distribution by age and sex had been the same as in 1950, total personal health care spending would have been reduced 13 percent, from $585.3 billion to $508.5 billion. On the other hand, if the older age-sex structure of 2030 were in place, total spending would have been $728.3 billion, an increase of more than 24 percent.

Some types of services are more affected by demographic change than are others. This can be seen in examination of the age-sex cost indexes for individual services, three of which are shown in Figure 2. Nursing home care, as might be expected, is very sensitive to the proportion of the population that is age 65 or over; spending for nursing home care in 2030 will be double that of 1990 just as a result of the aging of the population. Hospital care is similarly affected, although not to the same degree. Overall spending for physician services is not affected very much by the projected demographic change, although some specialties will be affected much more than others. Figure 1 summarizes the effect of demographic change to the U.S. population on the distribution of personal health care expenditures by type of service.

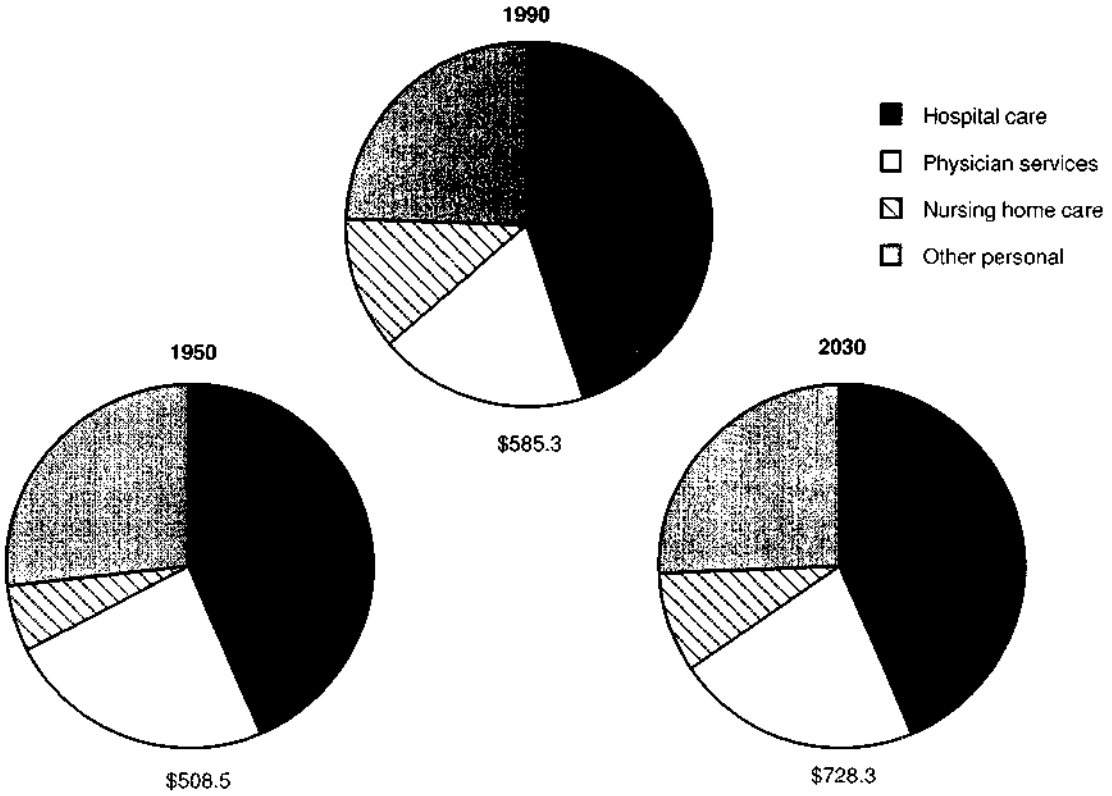
The aging of the population will also cause a shift from private to public financing. The Medicare share will increase as a larger portion of the population becomes eligible to receive benefits. The Medicaid share will increase as the population continues to grow older and begins to require nursing home care.

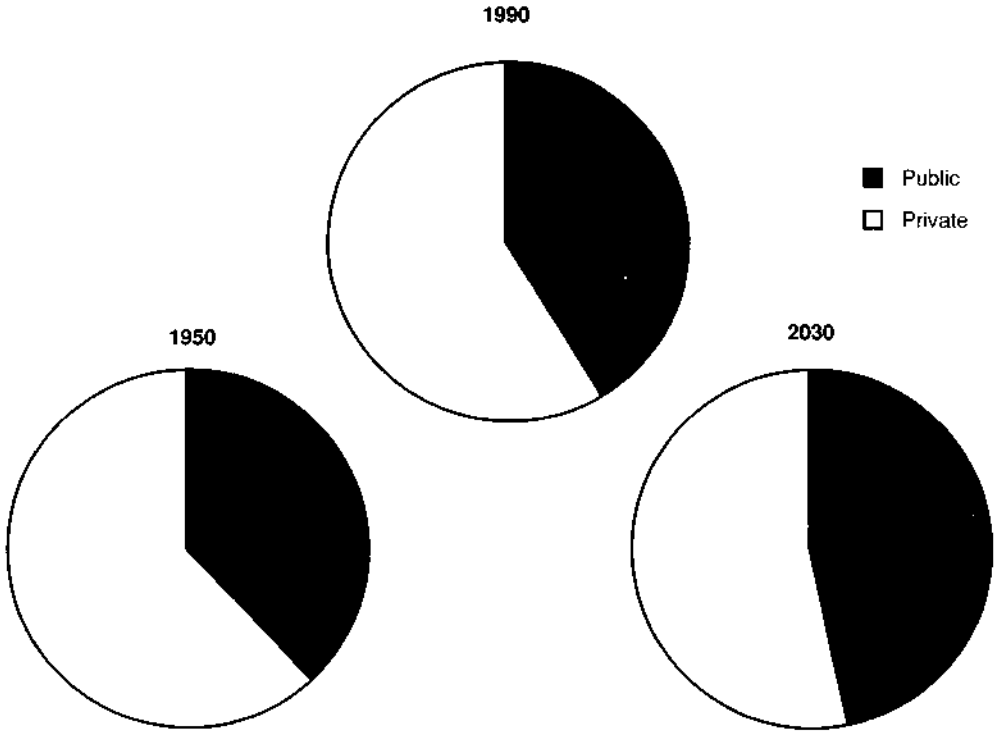
Medicare hospital insurance

Medicare hospital insurance (HI) spending for inpatient services and Medicare SMI spending for

Figure 1

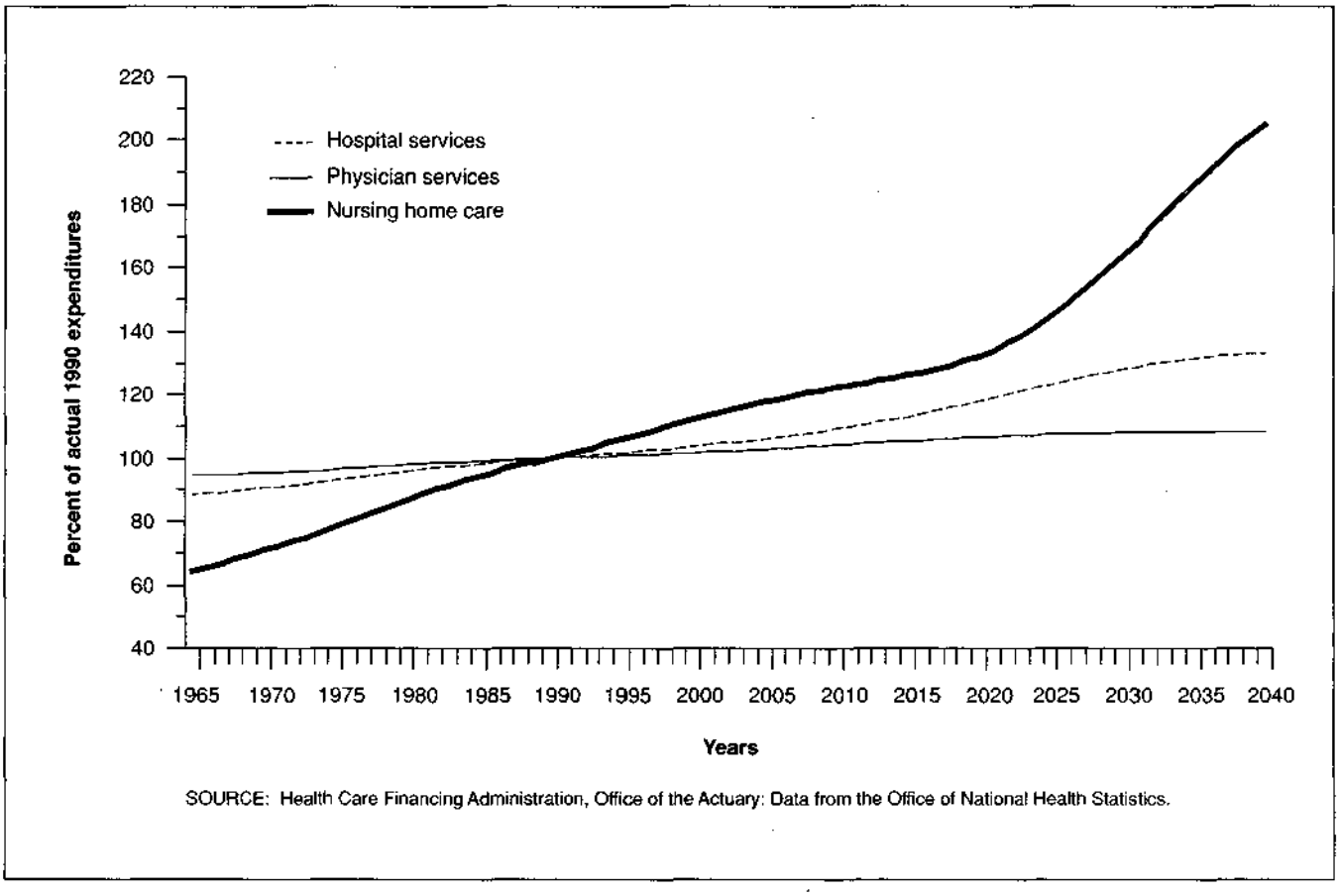
Hypothetical 1990 personal health care spending under age and sex structures of 1950 and 2030





SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Figure 2
Effects of demographic change on spending for health care: 1965–2040



SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

outpatient services together accounted for 26.7 percent of hospital patient revenue in 1990. They are projected to rise to 34.9 percent by the year 2030, largely as a result of faster growth in the Medicare-covered population (90 percent of which is age 65 or over).

The growth in hospital payments under HI slowed abruptly in 1985 following the introduction of the prospective payment system (PPS). Both unit price increases and utilization rates slowed, resulting in program growth of less than 10 percent per year since 1985. The trustees' intermediate projection assumptions allow for slightly higher increases in the next decade, on the assumption that utilization declines achieved so far will not continue into the future. However, the total increases are still expected to be well below those prior to PPS.

HI is financed through a payroll tax on wages and self-employment earnings. The tax rate currently is 2.90 percent of payroll, and no further increases in the tax are scheduled in the law. Although cost increases are expected to be moderate by historical standards, they are still projected to rise faster than the wages that are taxed to support the program. By 1993, costs are projected to exceed taxes. The program can be sustained for a few years beyond that by drawing on the trust fund, but at some time, Congress will have to act to provide more funding, to limit the growth in costs, or perhaps to overhaul the system entirely.

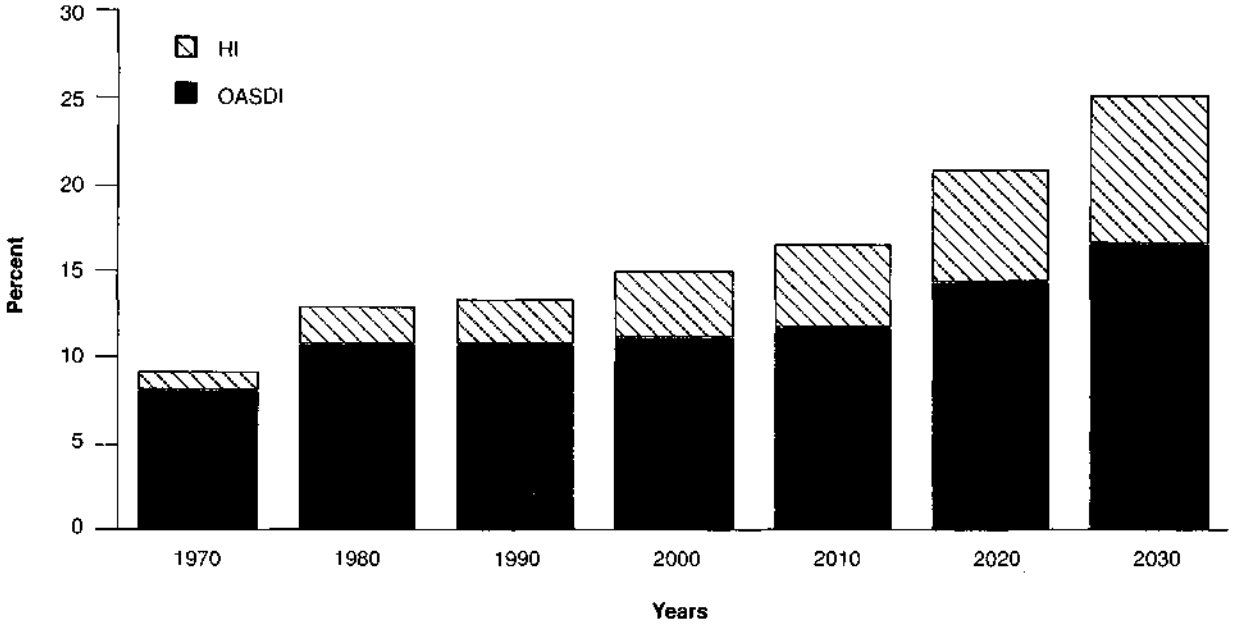
The estimates provided in the trustees' report do not make any explicit assumptions about future legislation to control costs or otherwise reorganize the program. The estimates presented in this article similarly assume no legislation influencing future hospital costs. Total HI spending was 2.69 percent of payroll in 1990. In this current-law scenario, HI costs reach 3.76 percent of taxable payroll by the year 2000 and 8.62 percent by the year 2030 (Figure 3). This is in addition to the taxes required to support the OASDI trust fund (estimated to be 11.24 percent of payroll in the year 2000 and 16.58 percent in 2030).

Medicare supplementary medical insurance

The forecasts of spending for physician and outpatient hospital services shown here depend heavily on projections of SMI expenditures. The most recent trustees' report (Board of Trustees, 1992) shows that SMI payments for medical services were just under $2 billion in 1970, 0.2 percent of GDP. By 1980, spending had risen to more than $10 billion, almost 0.4 percent of GDP. In 1990, SMI spent more than $40 billion on medical services, amounting to almost 0.8 percent of GDP. HCFA's actuaries project that SMI spending will double again as a percent of GDP by the year 2000, reaching about $150 billion in current dollars.

Figure 3

Old Age Survivors and Disability Insurance (OASDI) and hospital insurance (HI) cost rates as a percent of taxable payroll: Selected years 1970–2030



SOURCES: (Board of Trustees, Federal Hospital Insurance Trust Fund, 1992); Social Security Administration: 1992 Annual Report of the Board of Trustees of the Federal Old–Age and Survivors Insurance and Disability Trust Fund.

The rise of SMI spending relative to GDP slows after 2000. By the year 2016, it is only demographic change that keeps spending growth above GDP growth.

Outpatient hospital services are expected to continue to be a major contributor to SMI growth. Growth of inpatient costs has been slowed by PPS, but outpatient costs for lab, radiology, and emergency services have risen rapidly. This may be a result of transfering some services from an inpatient to an outpatient setting.

Spending for physician services is also projected to grow rapidly in the next decade. As of this writing, we cannot assess the effects of either the physician fee schedule (introduced in January 1992) or the volume performance standard (which first influences fees in 1992). Should these constraints prove effective, spending growth may fall below the projections shown here.

In our projection of expenditures for physician services, we assume that SMI spending grows somewhat faster over the next several years than spending by other payers. This was the case in the past, even accounting for demographic differences in the two populations served. However, one consequence of Medicare physician payment reform might be that physicians increase fees charged to other payers or direct more of their time to non-Medicare patients. Insufficient data exist at present to evaluate those possibilities.

Medicaid

Preliminary data for 1991 indicate that Medicaid spending (including both Federal and State shares) increased more than 30 percent, even higher than the 20-percent increase in 1990. Medicaid outlays are projected to again grow more than 30 percent in 1992, to slow to one-half that rate by the middle of the decade, then continue to decline to less than 10 percent by the year 2000.

The 1992 and 1993 estimates are based on State forecasts prepared for the Federal budget. Recently, these State forecasts have tended to underestimate actual outlays. For this reason, and because of the uncertainty concerning States' reaction to recent legislation concerning provider tax and donation programs and disproportionate-share payments to hospitals, the State estimates were adjusted upward by Federal officials; projections for the later years were based on the adjusted levels.

Medicaid outlays are projected to increase from $75 billion in 1990 to $360 billion in 2000. With this rapid growth, the Medicaid share of NHE nearly doubles, from 11.3 percent in 1990 to a high of 20.6 percent in the year 2000.

Many factors contribute to the large increases experienced in 1990 and 1991 and to the projected continuation of these increases for the next several years. Because of higher unemployment, more people are eligible for and receiving benefits than in the past. Recent legislation has also expanded eligibility for certain groups of children, the elderly, and the disabled. There have also been expansions in the services Medicaid provides. Many recent court cases involving the adequacy of Medicaid payment rates have been

decided in favor of the providers, resulting in higher payment rates for hospitals and nursing homes. And some of the growth apparently is attributable to States' efforts to shift more of the cost of the Medicaid program onto the Federal Government through the use of provider tax and donation schemes and disproportionate-share payments to hospitals (see sidebar discussion).

Because of the uncertainty about the long-term effect of all these factors on future spending, we have projected Medicaid growth to slow after the year 2000 to an average rate of 7 percent per year, resulting in Medicaid outlays reaching $2.9 trillion by the year 2030.

Summary of projections

Based on the exogenous factors previously described and assuming the continuation of current laws and practices, we have projected that NHE will reach $1.7 trillion in the year 2000. That implies an average annual growth of 10.1 percent over the decade as a whole. Average annual growth will slow during each of the first three decades of the 21st century, so that the overall growth during the projection period of 1990-2030 will average 8.3 percent. By contrast, growth in NHE from 1965 to 1990 averaged 11.7 percent per year. Even with this slower growth, NHE is projected to reach $16 trillion in the year 2030 and to consume almost one-third of the Nation's GDP.

The ratio of NHE to GDP is projected to grow over time. This trend will be especially pronounced during the next few years as a result of two factors. First, the economy as a whole is projected to behave sluggishly through 1992. Second, NHE has proved to be fairly resistant to the business cycle faced by the rest of the economy (this phenomenon can be seen in Figure 4). As a result, the growth differential between health spending and the economy as a whole is greater during recessions than during expansions, accelerating growth of the ratio of the two. The proportion of GDP accounted for by health spending is projected to rise almost a full percentage point per year through 1992 and then to rise about one-half a percentage point per year through the end of the century. Once ultimate growth rates dominate the projections both of health expenditure and GDP, the ratio is projected to rise about 0.4 percentage points per year through 2010, and then about 0.5 percentage points per year through 2030. The slight acceleration in growth of the share of GDP after 2010 is attributable to aging of the population.

Despite the upward movement of NHE's share of GDP, it does not follow that Americans will be forced to give up non-health goods and services in order to pay for health care. At least in aggregate, growth of real non-health GDP per capita is projected to grow in the future, even if at rates somewhat less than those of the past (Table 3). This observation should not be misconstrued: It tells us nothing about the effectiveness of our health expenditure. Nor should we necessarily be concerned about the slowdown in growth of non-health GDP per capita in the future, because the decision to devote a larger or smaller share of income to a particular good or service is rooted in consumer choice. But the figures do show that the economy has the capacity to absorb seemingly huge increases in spending for health without reducing the output of its other sectors. Health policy analysts in the 1960s predicted that health would never reach 10 percent of the GDP, believing that the bite such an expenditure would put on the rest of the economy would be politically intolerable. The capacity of the economy to absorb such a level may explain why their predictions failed to materialize.

Price inflation is projected to be the major force behind expenditure growth over the next 40 years. Health care inflation, as measured by the NHE implicit price deflator, is projected to average 5.2 percent per year from 1990 to 2030, compared with 7.0 percent from 1965 to 1990; the projected increases are higher in the near term than in the long term (Table 4). Constant-dollar per capita expenditures are projected to grow at an average rate of 2.3 percent from 1990 to 2030, compared with the 3.4-percent annual growth experienced from 1965 to 1990.

The relative effect of price inflation can be seen most easily in the trend in personal health care expenditures. This spending, which accounts for almost 90 percent of total NHE, is projected to increase from $585 billion in 1990 to $1.6 trillion in the year 2000 and to $14.8 trillion in 2030, growing an average of 8.4 percent per year. The largest component of this increase is health care price inflation, projected to be 5.3 percent per year. The aging of the population adds another 0.5 percent per year to expenditure growth. The remainder is attributable to average growth in population of 0.6 percent and to growth averaging 1.8 percent per year in real expenditures per capita (net of age-sex effects).

Distribution of spending for providers

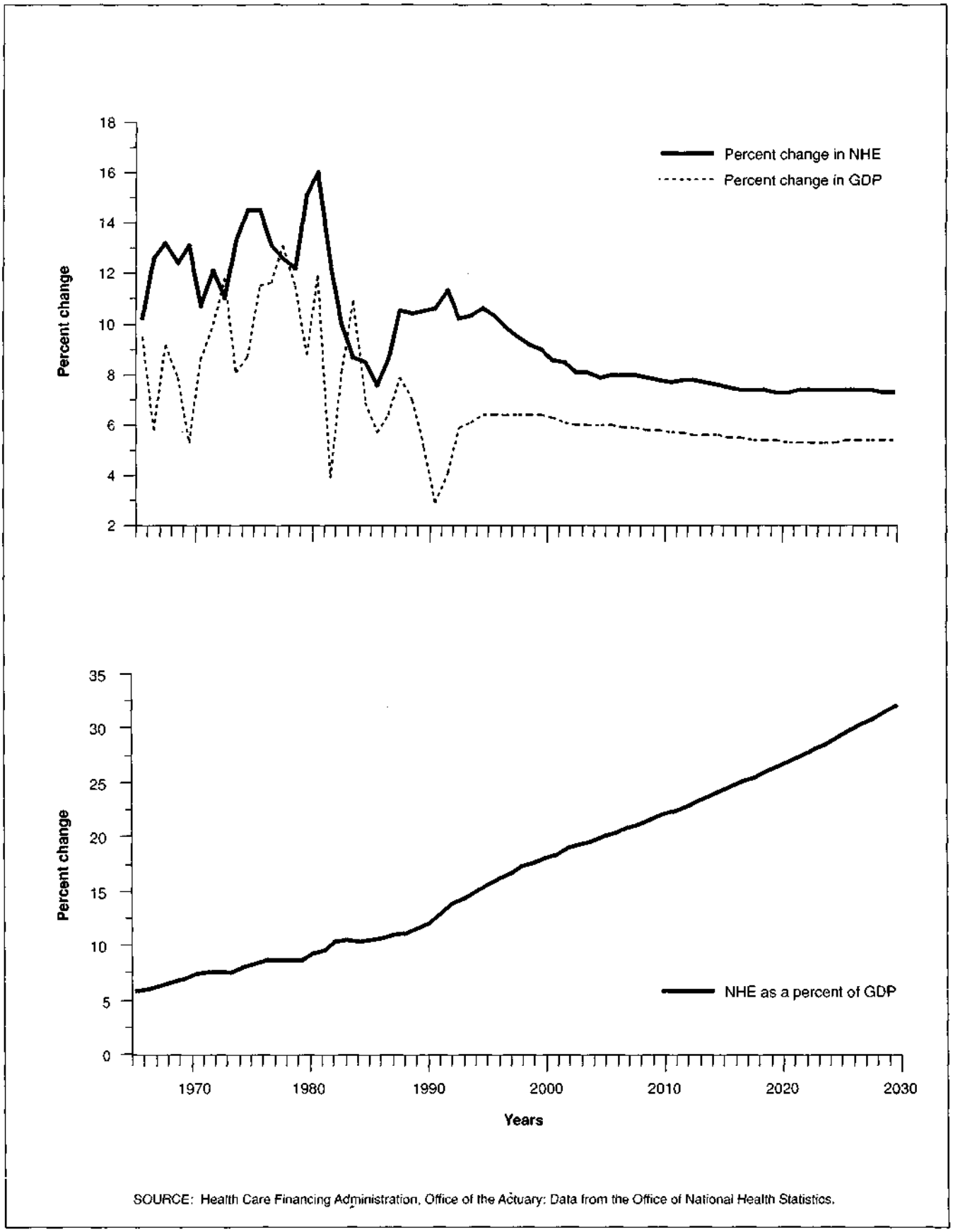
The shift from inpatient care to ambulatory services that began with the implementation of PPS is projected to continue through the projection period (Table 5). Outpatient hospital revenues, which accounted for 8.8 percent of personal health care spending in 1990, are projected to account for 11.5 percent by the year 2000, and for 15.8 percent by the year 2030. The share accounted for by physician expenditures is projected to increase slightly during the 1990s (from 21.5 percent in 1990 to 21.9 percent in 2000) and then to increase sharply to 26.1 percent by 2030.

Toward the end of the projection period, as the aging of the population becomes significant, nursing home care and home health services combine to account for 11.9 percent of personal health care, up from 10.3 percent in 1990.

Most of the gains in share mentioned so far are made at the expense of inpatient hospital revenue. The share of spending accounted for by this category of service drops from 28.3 percent in 1990 to 22.3 percent in 2030. In addition, there are slight decreases in the share of personal health care expenditures accounted for by each of the remaining components, such as drugs, durables, and so on.

Figure 4

Percent change in national health expenditure (NHE) and gross domestic product (GDP): 1965–2030



SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Table 3

Average growth rates per capita in real health expenditures, real gross domestic product (GDP), and non-health real GDP: United States, selected periods 1965-2030

Time period	Real GDP	Real NHE	Real GDP less NHE
		Percent	
1970-80	1.8	3.6	1.6
1980-90	1.6	2.3	1.5
1990-00	1.2	3.4	0.8
2000-10	1.2	2.1	1.1
2010-20	0.9	1.8	0.7
2020-30	0.9	2.0	0.7
1965-90	1.8	3.4	1.6
1990-30	1.1	2.3	0.8

NOTE: NHE is national health expenditures.

SOURCE: Health Care Financing Administration: Data from the Office of the Actuary.

Distribution of spending among sources

Our projections show a rapid growth in public spending for health care. Medicare accounted for 10.3 percent of NHE in 1970 and for 15.0 percent in 1980. Because of PPS affecting HI and physician fee freezes affecting SMI, the share increased only to 16.7 percent in 1990. Prior to the slowdown in the 1980s, Medicare grew faster than other major sources of funding, and the difference in growth was greater than can be explained by the demographic changes in the Medicare population.

In our projections, Medicare's share of NHE is expected to rise to 18.8 percent by 2000 and to 25.9 percent by 2030. Much of this increase is the result of the baby boom of the 1950s aging into Medicare eligibility in the early part of the next century.

Table 4

Average annual growth in nominal and constant-dollar aggregate and per capita national health expenditures (NHE) and in health prices: United States, selected periods 1965-2030

Time period	Aggregate national health expenditures		NHE implicit price deflator	Per capita national health expenditures	
	Nominal	Real		Nominal	Real
1970-80	12.9	4.6	8.0	11.9	3.6
1980-90	10.3	3.4	6.7	9.2	2.3
1990-00	10.1	4.3	5.6	9.1	3.4
2000-10	8.1	2.8	5.2	7.4	2.1
2010-20	7.5	2.4	5.0	6.9	1.8
2020-30	7.4	2.4	4.9	6.9	2.0
1965-90	11.7	4.4	7.0	10.7	3.4
1990-30	8.3	3.0	5.2	7.6	2.3

SOURCE: Health Care Financing Administration: Data from the Office of the Actuary.

Table 5

Percent distribution of personal health care expenditures, by type of service: United States, Selected years 1980-2030

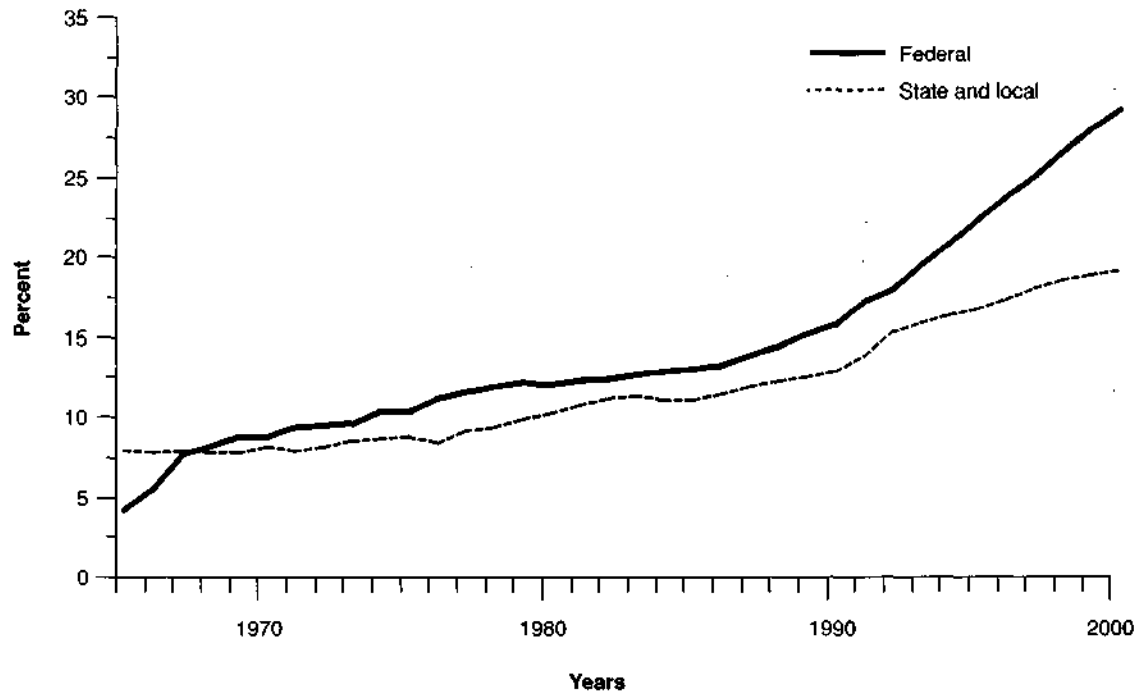
Type of expenditure	1980	1990	Projected 2000	2010	2020	2030
			Percent distribution			
Total	100.0	100.0	100.0	100.0	100.0	100.0
Hospital care	46.7	43.7	44.6	44.9	45.4	45.3
Community inpatient revenue	31.5	28.3	24.2	22.9	22.6	22.3
Community outpatient revenue	4.7	8.8	11.5	13.7	15.1	15.8
Other hospital care	10.4	6.7	8.8	8.2	7.7	7.2
Physician services	19.1	21.5	21.9	24.5	25.9	26.1
Dental services	6.5	5.8	4.0	3.0	2.4	1.9
Other professional services	4.0	5.4	5.2	4.9	4.7	4.4
Home health care	0.6	1.2	1.9	1.8	1.8	1.9
Drugs and other medical durables	9.9	9.3	8.0	7.4	7.3	7.1
Vision products and other medical durables	2.1	2.1	1.5	1.3	1.0	0.9
Nursing home care	9.1	9.1	9.3	9.0	8.9	10.0
Other personal health care	2.1	1.9	3.4	3.2	2.8	2.5

NOTES: Columns may not add to 100.0 because of rounding. Non-patient revenues of community hospitals are included in "other hospital care."

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Figure 5

Government expenditures for health as a percent of total government spending: 1965–2000



SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

A more dramatic increase is expected in the Medicaid program in the next decade. Medicaid has provided about 10 percent of national health care funds each year for the last two decades. As previously described, however, Medicaid spending rose dramatically in 1990 and 1991. By the year 2000, Medicaid's share of NHE will reach nearly 21 percent, but demographic changes will cause that share to erode slightly through the end of the projection period.

Projected health spending will place increased burdens on both Federal and State budgets (Figure 5). In 1990, total Federal spending for health accounted for 15.4 percent of all Federal spending. By the year 2000, this share will nearly double to 28.8 percent. Medicare and the Federal share of Medicaid contribute about equally to the increase, while the share for other Federal sources, primarily the Departments of Veterans Affairs and Defense, increases only slightly. Overall, the Federal budget share devoted to health will continue to increase through the year 2030.

The story is similar for State governments. The health share of total State expenditures is projected to increase from 12.5 percent in 1990 to 18.8 percent in 2000, with all of the increase attributable to Medicaid. Faced with this situation, States have begun to look at ways to reduce costs, including the use of managed or coordinated care.

In the past, the slow upward movement in the public share of health care spending has resulted in a downward trend in the share of costs paid out of pocket. The portion paid by private insurance has moved generally upward over the past two decades. If the forecasts presented here materialize, private sector spending, at 57.6 percent of total in 1990, will decline to less than 50 percent before 2000, with insurance, out-of-pocket spending, and charity all declining as a percent of total.

Changes in projections

General assumptions

There are two changes in the general framework of the projections from the estimates presented last year (Sonnefeld et al., 1991).

We now use gross domestic product (GDP) as a measure of the Nation's output. In the past, we used gross national product (GNP). GNP is defined to be the value of goods and services produced by U.S. citizens, regardless of where in the world those goods and services are produced. GDP, by contrast, is defined to be the value of goods and services produced in the United States, regardless of who owns the factors of production. There are two reasons to adopt GDP as our measure of national output. First, the U.S. Commerce Department has switched from reporting GNP to reporting GDP. Thus, our switch aligns us with the major statistical reporting systems in the United States. Second, when comparing health expenditures across countries, it is common to use GDP as a measure of national output rather than GNP (Schieber, Poullier, and Greenwald, 1992).

The effect of the switch from GNP to GDP is fairly small. The difference between GNP and GDP in the United States in 1990 and 1991 was only 0.2 percent of the level. As a result, the time series showing NHE as a percent of GDP is quite close to that of NHE as a percent of GNP.

The 1992 trustees' reports incorporate updated economic assumptions, which contribute to a difference between this year's projections and last year's projections. The extent of the economic slowdown that began in 1990 is more pronounced in the later assumptions, so that real growth of the economy is 1.3 percent less from 1989 through 1995 than had been projected last year. The new projections of general price inflation are also lower than previous ones, cumulating 2.4 percent less through 1995. However, real growth in the last half of this decade is stronger than was projected last year, so that by the year 2000, real output is only 0.6 percent lower under the 1992 assumptions than under the 1991 assumptions, cumulative price inflation is 2.5 percent lower, and nominal output is 3.1 percent lower. (We cannot separate the difference caused by conversion from GNP to GDP, but we suspect that it is negligible.)

These two changes contribute to the higher share of total output accounted for by NHE in the year 2000 in this year's projections compared with last year's. Based on the 1991 trustees' reports, we projected NHE to reach 16.4 percent of the GNP in the year 2000. Switching to GDP as a denominator raises health's share at the end of the century by 0.03 percent—not enough to show in rounding. The effect of slower real growth and slower general price inflation adds no more than one-half of a percentage point to the 2000 share. That leaves 1 percentage point difference in the 2 year's projections of health as a percent of total output to be explained by changes in other exogenous variables.

Medicare

Medicare spending estimates for the year 2000 are up by 8 percent from the 1991 estimate. Combined HI and SMI hospital cost are up 11 percent and physician payments are up 5 percent. However, considering that the cumulative growth over the 10-year period is about 200 percent, the changes are relatively small. The major program change implemented since the 1991 trustees' report, the physician fee schedule effective January 1992, has not been in place long enough for us to evaluate its impact. It may well be that physician payment reform will affect future SMI projections significantly.

In an additional change in Medicare procedures, SMI forecasts are now carried out for 75 years, instead of the 10-year horizon of the 1991 trustees' report. The ultimate growth rate in SMI cost per enrollee is set at the rate of increase in GDP per capita (plus demographic effects) after 2016. The projections in this article are consistent with those long-range forecasts.

Medicaid

The projections of Medicaid outlays based on the 1992 President's budget incorporated into this set of projections are higher than those used last year. Complete data for fiscal year 1990 and preliminary data for 1991 indicate that expenditures were growing faster than had been anticipated last year. Although the specific effects of each of the factors contributing to that growth have not been quantified, we do know that tax and donation programs and disproportionate-share payments to hospitals are responsible for a significant part of the difference between this year's projections and last year's.

Changes in Medicaid payment mechanisms: Taxes and donations, and disproportionate-share payments

Two recent developments in Medicaid financing have affected the trend of expenditures through that program.

Tax and donation mechanisms (referred to as "T & D") are methods used by States to shift Medicaid costs to the Federal Government. These mechanisms involve an increase in Medicaid payments and a transfer of funds from providers to the State government. The transfer may be explicit (in the case, say, of a State-owned hospital), or it may take the form of a tax or other type of provider "donation." Because they involve at least a paper increase in State Medicaid payments, T & D programs have significantly accelerated the trend in Medicaid spending.

T & D programs allow the States greater leverage of their Medicaid dollars. Some T & D receipts fund program expansions required by recent legislation. In aggregate, about two-thirds of T & D funds are used to make disproportionate-share payments to hospitals. However, use of the funds is not restricted by Federal law and varies on a State-by-State basis.

T & D payments effectively began to matter in fiscal year 1990. A survey conducted by the American Hospital Association found 9 States with T & D programs in 1990; by October 1991, that number had risen to 31, with 8 more States considering a program (Meersman, 1992). HCFA program data show that $0.3 billion of Federal funds were used in fiscal year 1990 to match money raised through T & D. HCFA's actuaries have projected that category of funds as part of the budget process. Using those projections and an implied matching ratio, we estimate T & D receipts by States to have been $7.1 billion in calendar year 1992 and project the figure to rise to $29.9 billion in calendar year 2000 (Table 6).

Partly as a result of the availability of T & D funds, many States have begun to make disproportionate-share hospital (DSH) payments. DSH payments are made in recognition of the fact that some hospitals have a larger indigent caseload than others, but the definition varies by State. Some States have declared all hospitals eligible for DSH payments.

Table 6

Tax and donation funds and disproportionate-share hospital (DSH) payments under Medicaid: United States, 1990-2000

Year	DSH payments		Tax and donation funds			
	Total	Federal funds	Total	State funds	Federal matching funds	State funds as a percent of GDP
	Amount in billions					
1990	$1.5	$0.9	$1.5	$0.6	$0.9	0.0
1991	8.9	5.1	7.2	3.1	4.1	0.1
1992	20.3	11.6	16.4	7.1	9.3	0.1
1993	26.3	14.9	21.2	9.1	12.1	0.1
1994	33.3	18.9	26.9	11.6	15.3	0.2
1995	41.4	23.5	33.4	14.4	19.0	0.2
1996	50.4	28.7	40.7	17.5	23.1	0.2
1997	60.0	34.2	48.5	20.9	27.6	0.3
1998	69.2	39.3	55.8	24.1	31.8	0.3
1999	77.9	44.3	62.8	27.1	35.8	0.3
2000	85.9	48.9	69.3	29.9	39.4	0.3

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Channeling DSH payments through Medicaid affords States more leverage of their money than does use of other programs or of straightforward appropriations. This is because State expenditures for DSH payments are matched by the Federal Government in the same way that other Medicaid funds are matched. Consequently, not all DSH payments represent new revenue to hospitals. An unknown portion of the payments is offset by reductions in State or local subsidies of hospital operation.

The future of both DSH payments and T & D revenues is uncertain. Recent legislation has placed some restrictions on the use of provider taxes and donations and limits aggregate payments to disproportionate-share hospitals to 12 percent of Medicaid expenditures. Whether or not this legislation will be effective in holding down Medicaid outlays is yet to be seen. In particular, rules implementing the legislation have yet to be published.

Aside from their effect on the trend of Medicaid spending, T & D programs create a potential accounting problem for the national health accounts. In a strict accounting sense, provider taxes at the hospital level represent a cost and are booked as such. Similarly, increases in Medicaid payments are booked as revenue. However, the net effect on the hospital is equal to the gross increase in payments less the provider taxes. Because the Medicaid payment comes from the State government and the provider tax goes to the State government, many people may wish to net the two to determine how much the State spent for health care. A column has been included in Table 6 showing by how much NHE would be reduced under that definition. Removing State T & D revenues from NHE in the year 2000, for example, would lower NHE as a share of the GDP by 0.1 percentage point.

Table 7

National health expenditures aggregate and per capita amounts, percent distribution, and average annual percent growth, by source of funds: United States, selected years 1980-2030

Item	1980	1990	1991	1992	1993	1995	2000	2010	2020	2030
					Amount in billions					
National health expenditures	$250.1	$666.2	$736.5	$819.9	$903.3	$1,101.9	$1,739.8	$3,787.8	$7,839.4	$15,969.6
Private	145.0	383.6	413.0	443.5	482.2	573.0	859.9	1,819.2	3,776.1	7,753.0
Public	105.2	282.6	323.5	376.5	421.1	528.8	879.9	1,968.6	4,063.2	8,216.7
Federal	72.0	195.4	223.2	258.9	290.0	366.1	617.5	1,448.4	3,074.5	6,321.0
State and local	33.2	87.3	100.3	117.5	131.1	162.8	262.4	520.2	988.7	1,895.6
U.S. population[1]	235.1	259.6	262.2	264.7	267.2	272.0	283.0	302.5	320.3	333.5
Gross domestic product	$2,708	$5,514	$5,674	$5,909	$6,259	$7,069	$9,637	$17,238	$29,594	$49,936
					Per capita amount					
National health expenditures	$1,064	$2,566	$2,809	$3,098	$3,380	$4,050	$6,148	$12,522	$24,478	$47,891
Private	617	1,478	1,575	1,675	1,805	2,106	3,039	6,014	11,791	23,250
Public	447	1,089	1,234	1,422	1,576	1,944	3,109	6,508	12,687	24,641
Federal	306	753	852	978	1,085	1,346	2,182	4,788	9,600	18,956
State and local	141	336	383	444	490	598	927	1,720	3,087	5,685
					Percent distribution					
National health expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Private	58.0	57.6	56.1	54.1	53.4	52.0	49.4	48.0	48.2	48.5
Public	42.0	42.4	43.9	45.9	46.6	48.0	50.6	52.0	51.8	51.5
Federal	28.8	29.3	30.3	31.6	32.1	33.2	35.5	38.2	39.2	39.6
State and local	13.3	13.1	13.6	14.3	14.5	14.8	15.1	13.7	12.6	11.9
					Percent of gross domestic product					
National health expenditures	9.2	12.1	13.0	13.9	14.4	15.6	18.1	22.0	26.5	32.0
					Average annual percent growth from previous year shown					
National health expenditures	—	10.3	10.6	11.3	10.2	10.4	9.6	8.1	7.5	7.4
Private	—	10.2	7.7	7.4	8.7	9.0	8.5	7.8	7.6	7.5
Public	—	10.4	14.5	16.4	11.9	12.1	10.7	8.4	7.5	7.3
Federal	—	10.5	14.3	16.0	12.0	12.3	11.0	8.9	7.8	7.5
State and local	—	10.2	14.9	17.2	11.5	11.4	10.0	7.1	6.6	6.7
U.S. population[1]	—	1.0	1.0	1.0	1.0	0.9	0.8	0.7	0.6	0.4
Gross domestic product	—	7.4	2.9	4.1	5.9	6.3	6.4	6.0	5.6	5.4

[1]July 1 social security area population estimates.

NOTE: Numbers and percents may not add to totals because of rounding.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Table 8

National health expenditures aggregate amounts and average annual percent change, by type of expenditure: United States, selected years 1980-2030

Type of expenditure	1980	1990	1991	1992	1993	1995	2000	2010	2020	2030
					Amount in billions					
National health expenditures	$250.1	$666.2	$736.5	$819.9	$903.3	$1,101.9	$1,739.8	$3,787.8	$7,839.4	$15,969.6
Health services and supplies	238.9	643.4	713.2	794.5	875.9	1,071.3	1,696.4	3,707.4	7,690.3	15,691.8
Personal health care	219.4	585.3	649.5	727.1	803.7	986.7	1,572.1	3,457.7	7,200.2	14,753.7
Hospital care	102.4	256.0	285.1	324.2	358.8	441.1	701.2	1,551.5	3,267.5	6,680.8
Physician services	41.9	125.7	138.0	151.8	167.3	206.1	344.8	848.4	1,861.6	3,845.0
Dental services	14.4	34.0	36.6	38.7	41.0	46.5	62.3	104.7	171.1	279.7
Other professional services	8.7	31.6	35.9	40.2	44.9	55.4	82.5	169.6	335.2	649.0
Home health care	1.3	6.9	8.5	10.3	12.3	16.4	30.5	63.6	127.4	287.5
Drugs and other medical non-durables	21.6	54.6	59.7	65.1	70.9	84.1	125.5	256.2	522.0	1,045.3
Vision products and other medical durables	4.6	12.1	12.5	13.0	13.9	16.3	24.2	44.0	75.5	127.4
Nursing home care	20.0	53.1	59.5	66.3	74.3	92.9	147.0	310.1	639.2	1,477.4
Other personal health care	4.6	11.3	13.7	17.5	20.4	28.0	54.1	109.4	200.7	361.6
Program administration and net cost of private health insurance	12.2	38.7	42.9	45.1	48.0	56.3	84.5	179.6	370.0	732.1
Government public health activities	7.2	19.3	20.8	22.4	24.2	28.3	39.9	70.1	120.2	206.0
Research and construction	11.3	22.8	23.3	25.4	27.4	30.5	43.4	80.4	149.1	277.8
Research[1]	5.4	12.4	13.0	14.2	15.7	18.9	27.9	53.4	97.7	175.6
Construction	5.8	10.4	10.3	11.2	11.7	11.7	15.4	26.9	51.4	102.2
					Average annual percent change from previous year shown					
National health expenditures	—	10.3	10.6	11.3	10.2	10.4	9.6	8.1	7.5	7.4
Health services and supplies	—	10.4	10.8	11.4	10.2	10.6	9.6	8.1	7.6	7.4
Personal health care	—	10.3	11.0	11.9	10.5	10.8	9.8	8.2	7.6	7.4
Hospital care	—	9.6	11.4	13.7	10.7	10.9	9.7	8.3	7.7	7.4
Physician services	—	11.6	9.9	9.9	10.2	11.0	10.8	9.4	8.2	7.5
Dental services	—	9.0	7.8	5.5	6.0	6.5	6.0	5.3	5.0	5.0
Other professional services	—	13.8	13.5	12.0	11.7	11.0	8.3	7.5	7.0	6.8
Home health care	—	17.8	23.0	21.5	18.9	15.6	13.2	7.6	7.2	8.5
Drugs and other medical non-durables	—	9.7	9.4	9.1	8.9	8.9	8.3	7.4	7.4	7.2
Vision products and other medical durables	—	10.3	2.8	4.4	6.6	8.5	8.2	6.1	5.6	5.4
Nursing home care	—	10.3	11.9	11.5	12.1	11.8	9.6	7.8	7.5	8.7
Other personal health care	—	9.5	21.2	27.5	16.5	17.2	14.1	7.3	6.3	6.1
Program administration and net cost of private health insurance	—	12.2	10.7	5.2	6.3	8.3	8.4	7.8	7.5	7.1
Government public health activities	—	10.3	7.6	7.6	8.3	8.1	7.1	5.8	5.5	5.5
Research and construction	—	7.3	2.2	9.0	7.9	5.5	7.3	6.4	6.4	6.4
Research[1]	—	8.5	5.3	9.1	10.3	9.7	8.2	6.7	6.2	6.0
Construction	—	6.0	−1.4	8.8	4.8	−0.3	5.8	5.7	6.7	7.1

[1]Research and development expenditures of drug companies and other manufacturers and providers of medical equipment and supplies are excluded from "research expenditures," but they are included in the expenditure class in which the product falls.

NOTE: Numbers may not add to totals because of rounding.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Table 9

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other			
			Total	Out of pocket	Private insurance		Total	Federal	State and local
1980					Amount in billions				
National health expenditures	$250.1	$145.0	$132.9	$59.5	$73.4	$12.1	$105.2	$72.0	$33.2
Health services and supplies	238.9	140.7	132.9	59.5	73.4	7.8	98.1	66.8	31.4
Personal health care	219.4	132.3	124.8	59.5	65.3	7.6	87.1	63.5	23.6
Hospital care	102.4	47.8	42.8	5.3	37.5	5.0	54.6	41.3	13.3
Physician services	41.9	29.2	29.2	11.3	18.0	0.0	12.6	9.7	3.0
Dental services	14.4	13.7	13.7	9.4	4.4	—	0.6	0.3	0.3
Other professional services	8.7	6.9	6.0	3.8	2.2	0.9	1.7	1.3	0.4
Home health care	1.3	0.4	0.2	0.1	0.1	0.1	1.0	0.8	0.1
Drugs and other medical non-durables	21.6	20.0	20.0	17.5	2.5	—	1.7	0.8	0.8
Vision products and other medical durables	4.6	4.0	4.0	3.5	0.4	—	0.6	0.5	0.1
Nursing home care	20.0	9.5	8.8	8.7	0.2	0.6	10.5	6.1	4.4
Other personal health care	4.6	0.9	—	—	—	0.9	3.7	2.5	1.2
Program administration and net cost of private health insurance	12.2	8.4	8.1	—	8.1	0.2	3.8	2.1	1.8
Government public health activities	7.2	—	—	—	—	—	7.2	1.2	6.0
Research and construction	11.3	4.2	—	—	—	4.2	7.0	5.2	1.8
Research	5.4	0.3	—	—	—	0.3	5.2	4.7	0.5
Construction	5.8	4.0	—	—	—	4.0	1.9	0.6	1.3
					Percent distribution				
National health expenditures	100.0	58.0	53.1	23.8	29.3	4.8	42.0	28.8	13.3
Health services and supplies	100.0	58.9	55.6	24.9	30.7	3.3	41.1	28.0	13.1
Personal health care	100.0	60.3	56.9	27.1	29.7	3.5	39.7	28.9	10.8
Hospital care	100.0	46.7	41.8	5.2	36.6	4.9	53.3	40.4	12.9
Physician services	100.0	69.8	69.8	26.9	42.9	0.1	30.2	23.1	7.1
Dental services	100.0	95.6	95.6	65.2	30.5	—	3.8	1.9	1.9
Other professional services	100.0	79.9	69.3	43.5	25.8	10.6	20.1	14.9	5.2
Home health care	100.0	27.6	17.7	10.2	7.6	9.9	72.3	61.3	11.0
Drugs and other medical non-durables	100.0	92.3	92.3	80.8	11.5	—	7.8	3.9	3.9
Vision products and other medical durables	100.0	86.7	86.7	77.1	9.7	—	13.3	11.2	2.0
Nursing home care	100.0	47.3	44.2	43.3	0.9	3.1	52.7	30.7	21.9
Other personal health care	100.0	19.1	—	—	—	19.1	80.9	54.7	26.2
Program administration and net cost of private health insurance	100.0	68.6	66.6	—	66.6	2.0	31.4	16.9	14.5
Government public health activities	100.0	—	—	—	—	—	100.0	17.3	82.7
Research and construction	100.0	37.5	—	—	—	37.5	62.5	46.2	16.3
Research	100.0	5.0	—	—	—	5.0	95.0	85.4	9.6
Construction	100.0	67.8	—	—	—	67.8	32.2	9.6	22.6

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other			
			Total	Out of pocket	Private insurance		Total	Federal	State and local
1990					Amount in billions				
National health expenditures	$666.2	$383.6	$352.9	$136.1	$216.8	$30.6	$282.6	$195.4	$87.3
Health services and supplies	643.4	374.8	352.9	136.1	216.8	21.8	268.6	184.3	84.3
Personal health care	585.3	343.5	322.2	136.1	186.1	21.3	241.8	177.2	64.6
Hospital care	256.0	116.0	102.2	12.8	89.4	13.8	140.0	104.6	35.3
Physician services	125.7	81.7	81.7	23.5	58.2	0.0	43.9	35.1	8.8
Dental services	34.0	33.1	33.1	18.0	15.1	—	0.8	0.4	0.4
Other professional services	31.6	25.2	21.5	8.8	12.8	3.6	6.5	4.9	1.6
Home health care	6.9	1.8	1.3	0.8	0.5	0.5	5.1	4.1	1.0
Drugs and other medical non-durables	54.6	48.5	48.5	40.2	8.3	—	6.1	3.1	3.1
Vision products and other medical durables	12.1	9.4	9.4	8.2	1.3	—	2.7	2.4	0.3
Nursing home care	53.1	25.5	24.4	23.9	0.6	1.0	27.7	17.2	10.5
Other personal health care	11.3	2.3	—	—	—	2.3	9.1	5.5	3.5
Program administration and net cost of private health insurance	38.7	31.3	30.7	—	30.7	0.6	7.5	4.8	2.7
Government public health activities	19.3	—	—	—	—	—	19.3	2.3	17.0
Research and construction	22.8	8.8	—	—	—	8.8	14.0	11.0	3.0
Research	12.4	0.8	—	—	—	0.8	11.5	10.0	1.5
Construction	10.4	8.0	—	—	—	8.0	2.5	1.0	1.5
					Percent distribution				
National health expenditures	100.0	57.6	53.0	20.4	32.5	4.6	42.4	29.3	13.1
Health services and supplies	100.0	58.2	54.9	21.2	33.7	3.4	41.8	28.7	13.1
Personal health care	100.0	58.7	55.1	23.3	31.8	3.6	41.3	30.3	11.0
Hospital care	100.0	45.3	39.9	5.0	34.9	5.4	54.7	40.9	13.8
Physican services	100.0	65.0	65.0	18.7	46.3	0.0	35.0	28.0	7.0
Dental services	100.0	97.5	97.5	53.0	44.5	—	2.3	1.1	1.1
Other professional services	100.0	79.6	68.1	27.7	40.4	11.5	20.4	15.5	4.9
Home health care	100.0	26.5	19.4	12.1	7.3	7.1	73.5	58.6	14.9
Drugs and other medical non-durables	100.0	88.9	88.9	73.6	15.3	—	11.3	5.6	5.6
Vision products and other medical durables	100.0	77.7	77.7	67.4	10.4	—	22.3	19.5	2.8
Nursing home care	100.0	47.9	46.0	44.9	1.1	1.9	52.1	32.3	19.8
Other personal health care	100.0	19.9	—	—	—	19.9	80.1	48.7	31.3
Program administration and net cost of private health insurance	100.0	80.7	79.2	—	79.2	1.4	19.3	12.3	7.0
Government public health activities	100.0	—	—	—	—	—	100.0	12.1	87.9
Research and construction	100.0	38.6	—	—	—	38.6	61.4	48.3	13.1
Research	100.0	6.7	—	—	—	6.7	93.3	81.1	12.2
Construction	100.0	76.4	—	—	—	76.4	23.6	9.5	14.1

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other			
			Total	Out of pocket	Private insurance		Total	Federal	State and local
1991					Amount in billions				
National health expenditures	$736.5	$413.0	$380.6	$146.4	$234.2	$32.3	$323.5	$223.2	$100.3
Health services and supplies	713.2	404.2	380.6	146.4	234.2	23.5	309.0	211.7	97.2
Personal health care	649.5	369.5	346.6	146.4	200.1	23.0	280.0	203.8	76.2
Hospital care	285.1	124.1	109.3	13.8	95.5	14.8	161.0	119.1	41.9
Physician services	138.0	88.1	88.1	25.5	62.6	0.1	49.9	40.1	9.9
Dental services	36.6	35.6	35.6	19.4	16.2	—	1.1	0.6	0.5
Other professional services	35.9	28.1	24.0	9.6	14.4	4.1	7.8	5.9	2.0
Home health care	8.5	2.2	1.6	1.0	0.6	0.6	6.3	5.1	1.2
Drugs and other medical non-durables	59.7	52.5	52.5	43.5	9.0	—	7.2	3.7	3.5
Vision products and other medical durables	12.5	9.5	9.5	8.3	1.2	—	3.0	2.6	0.3
Nursing home care	59.5	27.1	26.0	25.4	0.6	1.1	32.4	20.0	12.4
Other personal health care	13.7	2.4	—	—	—	2.4	11.3	6.9	4.4
Program administration and net cost of private health insurance	42.9	34.6	34.1	—	34.1	0.6	8.2	5.3	2.9
Government public health activities	20.8	—	—	—	—	—	20.8	2.6	18.1
Research and construction	23.3	8.8	—	—	—	8.8	14.5	11.5	3.0
Research	13.0	0.9	—	—	—	0.9	12.1	10.5	1.6
Construction	10.3	7.9	—	—	—	7.9	2.4	1.0	1.4
					Percent distribution				
National health expenditures	100.0	56.1	51.7	19.9	31.8	4.4	43.9	30.3	13.6
Health services and supplies	100.0	56.7	53.4	20.5	32.8	3.3	43.3	29.7	13.6
Personal health care	100.0	56.9	53.4	22.5	30.8	3.5	43.1	31.4	11.7
Hospital care	100.0	43.5	38.3	4.8	33.5	5.2	56.5	41.8	14.7
Physician services	100.0	63.8	63.8	18.5	45.3	0.0	36.2	29.0	7.1
Dental services	100.0	97.1	97.1	52.9	44.3	—	2.9	1.6	1.3
Other professional services	100.0	78.2	66.9	26.9	40.1	11.3	21.8	16.3	5.5
Home health care	100.0	25.9	18.9	11.8	7.1	7.0	74.1	59.5	14.6
Drugs and other medical non-durables	100.0	88.0	88.0	72.9	15.1	—	12.0	6.1	5.9
Vision products and other medical durables	100.0	76.3	76.3	66.3	10.0	—	23.7	21.0	2.7
Nursing home care	100.0	45.5	43.7	42.6	1.1	1.8	54.5	33.6	20.9
Other personal health care	100.0	17.5	—	—	—	17.5	82.5	50.2	32.3
Program administration and net cost of private health insurance	100.0	80.8	79.4	—	79.4	1.3	19.2	12.5	6.8
Government public health activities	100.0	—	—	—	—	—	100.0	12.7	87.3
Research and construction	100.0	37.7	—	—	—	37.7	62.3	49.3	13.1
Research	100.0	6.8	—	—	—	6.8	93.2	80.9	12.3
Construction	100.0	76.7	—	—	—	76.7	23.3	9.3	14.0

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other	Total	Federal	State and local
			Total	Out of pocket	Private insurance				
1992					Amount in billions				
National health expenditures	$819.9	$443.5	$408.0	$155.9	$252.1	$35.5	$376.5	$258.9	$117.5
Health services and supplies	794.5	433.9	408.0	155.9	252.1	25.9	360.7	246.4	114.3
Personal health care	727.1	397.7	372.5	155.9	216.6	25.2	329.3	237.6	91.7
Hospital care	324.2	135.5	119.3	14.9	104.3	16.3	188.7	137.7	51.0
Physician services	151.8	94.4	94.3	27.4	66.9	0.1	57.4	46.4	11.0
Dental services	38.7	37.3	37.3	20.3	17.0	—	1.4	0.8	0.6
Other professional services	40.2	31.0	26.5	10.5	16.0	4.5	9.2	6.8	2.3
Home health care	10.3	2.6	1.9	1.2	0.7	0.7	7.7	6.1	1.6
Drugs and other medical non-durables	65.1	56.6	56.6	46.9	9.7	—	8.5	4.4	4.1
Vision products and other medical durables	13.0	9.7	9.7	8.5	1.2	—	3.3	3.0	0.3
Nursing home care	66.3	28.0	26.9	26.2	0.7	1.1	38.3	23.4	14.9
Other personal health care	17.5	2.6	—	—	—	2.6	14.9	9.0	5.9
Program administration and net cost of private health insurance	45.1	36.1	35.5	—	35.5	0.6	9.0	5.8	3.2
Government public health activities	22.4	—	—	—	—	—	22.4	2.9	19.4
Research and construction	25.4	9.6	—	—	—	9.6	15.8	12.5	3.2
Research	14.2	1.0	—	—	—	1.0	13.3	11.5	1.7
Construction	11.2	8.7	—	—	—	8.7	2.5	1.0	1.5
					Percent distribution				
National health expenditures	100.0	54.1	49.8	19.0	30.7	4.3	45.9	31.6	14.3
Health services and supplies	100.0	54.6	51.4	19.6	31.7	3.3	45.4	31.0	14.4
Personal health care	100.0	54.7	51.2	21.4	29.8	3.5	45.3	32.7	12.6
Hospital care	100.0	41.8	36.8	4.6	32.2	5.0	58.2	42.5	15.7
Physician services	100.0	62.2	62.1	18.0	44.1	0.0	37.8	30.6	7.3
Dental services	100.0	96.4	96.4	52.6	43.9	—	3.6	2.0	1.6
Other professional services	100.0	77.2	66.0	26.2	39.8	11.1	22.8	17.0	5.8
Home health care	100.0	25.4	18.6	11.6	7.0	6.8	74.6	59.4	15.2
Drugs and other medical non-durables	100.0	87.0	87.0	72.0	15.0	—	13.0	6.7	6.3
Vision products and other medical durables	100.0	74.5	74.5	65.1	9.4	—	25.5	22.8	2.7
Nursing home care	100.0	42.2	40.5	39.5	1.0	1.7	57.8	35.3	22.5
Other personal health care	100.0	14.8	—	—	—	14.8	85.2	51.6	33.6
Program administration and net cost of private health insurance	100.0	80.0	78.6	—	78.6	1.4	20.0	12.8	7.1
Government public health activities	100.0	—	—	—	—	—	100.0	13.2	86.8
Research and construction	100.0	37.8	—	—	—	37.8	62.2	49.4	12.8
Research	100.0	6.7	—	—	—	6.7	93.3	81.1	12.2
Construction	100.0	77.3	—	—	—	77.3	22.7	9.1	13.6

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other			
			Total	Out of pocket	Private insurance		Total	Federal	State and local
1993					Amount in billions				
National health expenditures	$903.3	$482.2	$443.6	$169.9	$273.7	$38.6	$421.1	$290.0	$131.1
Health services and supplies	875.9	472.0	443.6	169.9	273.7	28.4	403.8	276.2	127.6
Personal health care	803.7	434.0	406.2	169.9	236.3	27.7	369.8	266.6	103.1
Hospital care	358.8	148.7	130.8	16.4	114.5	17.8	210.1	153.3	56.8
Physician services	167.3	102.5	102.4	29.8	72.6	0.1	64.8	52.5	12.3
Dental services	41.0	39.5	39.5	21.6	17.9	—	1.5	0.8	0.7
Other professional services	44.9	34.4	29.4	11.6	17.8	5.0	10.5	7.8	2.7
Home health care	12.3	3.0	2.2	1.4	0.8	0.8	9.3	7.3	2.0
Drugs and other medical non-durables	70.9	61.2	61.2	50.6	10.6	—	9.7	5.0	4.6
Vision products and other medical durables	13.9	10.2	10.2	9.0	1.2	—	3.7	3.3	0.4
Nursing home care	74.3	31.7	30.4	29.7	0.7	1.3	42.6	26.0	16.6
Other personal health care	20.4	2.8	—	—	—	2.8	17.5	10.6	7.0
Program administration and net cost of private health insurance	48.0	38.1	37.4	—	37.4	0.7	9.9	6.3	3.6
Government public health activities	24.2	—	—	—	—	—	24.2	3.3	20.9
Research and construction	27.4	10.2	—	—	—	10.2	17.2	13.8	3.4
Research	15.7	1.0	—	—	—	1.0	14.6	12.8	1.9
Construction	11.7	9.1	—	—	—	9.1	2.6	1.0	1.6
					Percent distribution				
National health expenditures	100.0	53.4	49.1	18.8	30.3	4.3	46.6	32.1	14.5
Health services and supplies	100.0	53.9	50.6	19.4	31.2	3.2	46.1	31.5	14.6
Personal health care	100.0	54.0	50.5	21.1	29.4	3.5	46.0	33.2	12.8
Hospital care	100.0	41.4	36.5	4.6	31.9	5.0	58.6	42.7	15.8
Physician services	100.0	61.3	61.2	17.8	43.4	0.0	38.7	31.4	7.3
Dental services	100.0	96.3	96.3	52.6	43.7	—	3.7	2.1	1.7
Other professional services	100.0	76.5	65.5	25.7	39.7	11.1	23.5	17.4	6.1
Home health care	100.0	24.3	17.7	11.0	6.7	6.5	75.7	59.3	16.5
Drugs and other medical non-durables	100.0	86.3	86.3	71.4	15.0	—	13.7	7.1	6.5
Vision products and other medical durables	100.0	73.6	73.6	64.8	8.8	—	26.4	23.7	2.6
Nursing home care	100.0	42.6	40.9	39.9	1.0	1.7	57.4	35.0	22.4
Other personal health care	100.0	13.9	—	—	—	13.9	86.1	52.0	34.2
Program administration and net cost of private health insurance	100.0	79.4	78.0	—	78.0	1.4	20.6	13.2	7.4
Government public health activities	100.0	—	—	—	—	—	100.0	13.5	86.5
Research and construction	100.0	37.1	—	—	—	37.1	62.9	50.3	12.5
Research	100.0	6.7	—	—	—	6.7	93.3	81.4	12.0
Construction	100.0	77.9	—	—	—	77.9	22.1	8.8	13.3

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other	Total	Federal	State and local
			Total	Out of pocket	Private insurance				
1995				Amount in billions					
National health expenditures	$1,101.9	$573.0	$528.5	$203.1	$325.4	$44.5	$528.8	$366.1	$162.8
Health services and supplies	1,071.3	562.6	528.5	203.1	325.4	34.1	508.7	349.6	159.1
Personal health care	986.7	518.1	484.7	203.1	281.6	33.3	468.7	338.3	130.4
Hospital care	441.1	176.7	155.5	19.3	136.2	21.2	264.4	193.7	70.7
Physician services	206.1	123.7	123.6	36.1	87.5	0.1	82.4	66.9	15.5
Dental services	46.5	44.6	44.6	24.5	20.2	—	1.8	1.0	0.8
Other professional services	55.4	41.6	35.6	13.9	21.7	6.0	13.8	10.1	3.7
Home health care	16.4	3.7	2.7	1.7	1.0	1.0	3.2	0.0	3.2
Drugs and other medical non-durables	84.1	71.5	71.5	58.8	12.7	—	12.6	6.7	6.0
Vision products and other medical durables	16.3	11.9	11.9	10.5	1.4	—	4.5	4.0	0.4
Nursing home care	92.9	41.0	39.4	38.4	1.0	1.6	51.9	31.5	20.3
Other personal health care	28.0	3.4	—	—	—	3.4	24.6	14.7	9.9
Program administration and net cost of private health insurance	56.3	44.6	43.8	—	43.8	0.8	11.7	7.5	4.3
Government public health activities	28.3	—	—	—	—	—	28.3	3.9	24.4
Research and construction	30.5	10.4	—	—	—	10.4	20.1	16.4	3.7
Research	18.9	1.2	—	—	—	1.2	17.6	15.4	2.2
Construction	11.7	9.2	—	—	—	9.2	2.5	1.0	1.5
				Percent distribution					
National health expenditures	100.0	52.0	48.0	18.4	29.5	4.0	48.0	33.2	14.8
Health services and supplies	100.0	52.5	49.3	19.0	30.4	3.2	47.5	32.6	14.8
Personal health care	100.0	52.5	49.1	20.6	28.5	3.4	47.5	34.3	13.2
Hospital care	100.0	40.1	35.2	4.4	30.9	4.8	59.9	43.9	16.0
Physician services	100.0	60.0	60.0	17.5	42.5	0.0	40.0	32.5	7.5
Dental services	100.0	96.0	96.0	52.7	43.4	—	4.0	2.2	1.8
Other professional services	100.0	75.1	64.2	25.0	39.2	10.8	24.9	18.3	6.6
Home health care	100.0	22.3	16.3	10.1	6.2	6.0	19.4	0.0	19.4
Drugs and other medical non-durables	100.0	85.0	85.0	69.9	15.1	—	15.0	7.9	7.1
Vision products and other medical durables	100.0	72.7	72.7	64.1	8.6	—	27.3	24.7	2.6
Nursing home care	100.0	44.2	42.4	41.3	1.0	1.8	55.8	34.0	21.9
Other personal health care	100.0	12.1	—	—	—	12.1	87.9	52.6	35.3
Program administration and net cost of private health insurance	100.0	79.2	77.8	—	77.8	1.4	20.8	13.2	7.6
Government public health activities	100.0	—	—	—	—	—	100.0	13.8	86.2
Research and construction	100.0	34.1	—	—	—	34.1	65.9	53.8	12.1
Research	100.0	6.5	—	—	—	6.5	93.5	81.9	11.7
Construction	100.0	78.7	—	—	—	78.7	21.3	8.5	12.8

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other	Total	Federal	State and local
			Total	Out of pocket	Private insurance				
2000					Amount in billions				
National health expenditures	$1,739.8	$859.9	$794.5	$302.7	$491.8	$65.4	$879.9	$617.5	$262.4
Health services and supplies	1,696.4	846.0	794.5	302.7	491.8	51.5	850.5	593.1	257.4
Personal health care	1,572.1	779.7	729.4	302.7	426.7	50.3	792.5	576.4	216.0
Hospital care	701.2	267.6	235.2	28.6	206.6	32.5	433.6	320.7	112.9
Physician services	344.8	194.9	194.8	56.6	138.3	0.1	149.8	123.9	25.9
Dental services	62.3	59.6	59.6	32.8	26.9	—	2.7	1.5	1.2
Other professional services	82.5	57.9	49.5	19.3	30.2	8.4	24.6	17.9	6.7
Home health care	30.5	5.6	4.1	2.5	1.6	1.5	24.9	17.6	7.3
Drugs and other medical non-durables	125.5	103.8	103.8	84.3	19.5	—	21.8	11.7	10.1
Vision products and other medical durables	24.2	17.4	17.4	15.4	2.1	—	6.8	6.2	0.6
Nursing home care	147.0	67.6	64.9	63.3	1.6	2.7	79.3	48.1	31.3
Other personal health care	54.1	5.1	—	—	—	5.1	48.9	28.9	20.0
Program administration and net cost of private health insurance	84.5	66.3	65.1	—	65.1	1.2	18.1	11.3	6.8
Government public health activities	39.9	—	—	—	—	—	39.9	5.3	34.6
Research and construction	43.4	13.9	—	—	—	13.9	29.4	24.4	5.0
Research	27.9	1.7	—	—	—	1.7	26.2	23.1	3.1
Construction	15.4	12.2	—	—	—	12.2	3.2	1.3	1.9
					Percent distribution				
National health expenditures	100.0	49.4	45.7	17.4	28.3	3.8	50.6	35.5	15.1
Health services and supplies	100.0	49.9	46.8	17.8	29.0	3.0	50.1	35.0	15.2
Personal health care	100.0	49.6	46.4	19.3	27.1	3.2	50.4	36.7	13.7
Hospital care	100.0	38.2	33.5	4.1	29.5	4.6	61.8	45.7	16.1
Physician services	100.0	56.5	56.5	16.4	40.1	0.0	43.5	35.9	7.5
Dental services	100.0	95.7	95.7	52.6	43.1	—	4.3	2.4	1.9
Other professional services	100.0	70.2	60.0	23.4	36.6	10.1	29.8	21.7	8.1
Home health care	100.0	18.3	13.4	8.2	5.2	4.9	81.7	57.6	24.1
Drugs and other medical non-durables	100.0	82.7	82.7	67.2	15.5	—	17.3	9.3	8.0
Vision products and other medical durables	100.0	72.0	72.0	63.4	8.6	—	28.0	25.5	2.6
Nursing home care	100.0	46.0	44.2	43.1	1.1	1.8	54.0	32.7	21.3
Other personal health care	100.0	9.5	—	—	—	9.5	90.5	53.5	37.0
Program administration and net cost of private health insurance	100.0	78.5	77.1	—	77.1	1.4	21.5	13.4	8.0
Government public health activities	100.0	—	—	—	—	—	100.0	13.3	86.7
Research and construction	100.0	32.1	—	—	—	32.1	67.9	56.2	11.6
Research	100.0	6.2	—	—	—	6.2	93.8	82.7	11.2
Construction	100.0	79.0	—	—	—	79.0	21.0	8.5	12.5

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other	Total	Federal	State and local
			Total	Out of pocket	Private insurance				
2010					Amount in billions				
National health expenditures	$3,787.8	$1,819.2	$1,683.6	$621.7	$1,061.9	$135.6	$1,968.6	$1,448.4	$520.2
Health services and supplies	3,707.4	1,794.7	1,683.6	621.7	1,061.9	111.1	1,912.7	1,401.6	511.0
Personal health care	3,457.7	1,650.9	1,542.4	621.7	920.7	108.5	1,806.7	1,370.6	436.1
Hospital care	1,551.5	595.1	523.0	63.2	459.9	72.1	956.3	732.8	223.6
Physician services	848.4	425.3	425.1	123.8	301.3	0.2	423.1	367.0	56.1
Dental services	104.7	100.0	100.0	55.1	44.8	—	4.7	2.6	2.1
Other professional services	169.6	113.8	97.4	37.9	59.5	16.4	55.8	41.3	14.4
Home health care	63.6	10.0	7.3	4.4	2.9	2.7	53.6	38.2	15.4
Drugs and other medical non-durables	256.2	214.7	214.7	169.7	45.0	—	41.5	22.1	19.4
Vision products and other medical durables	44.0	31.3	31.3	27.6	3.8	—	12.7	11.6	1.1
Nursing home care	310.1	149.6	143.6	140.1	3.5	6.0	160.6	97.0	63.6
Other personal health care	109.4	11.0	—	—	—	11.0	98.4	58.1	40.3
Program administration and net cost of private health insurance	179.6	143.8	141.2	—	141.2	2.6	35.8	22.1	13.7
Government public health activities	70.1	—	—	—	—	—	70.1	8.9	61.2
Research and construction	80.4	24.4	—	—	—	24.4	55.9	46.8	9.2
Research	53.4	3.1	—	—	—	3.1	50.3	44.5	5.8
Construction	26.9	21.3	—	—	—	21.3	5.7	2.3	3.4
					Percent distribution				
National health expenditures	100.0	48.0	44.4	16.4	28.0	3.6	52.0	38.2	13.7
Health services and supplies	100.0	48.4	45.4	16.8	28.6	3.0	51.6	37.8	13.8
Personal health care	100.0	47.7	44.6	18.0	26.6	3.1	52.3	39.6	12.6
Hospital care	100.0	38.4	33.7	4.1	29.6	4.6	61.6	47.2	14.4
Physician services	100.0	50.1	50.1	14.6	35.5	0.0	49.9	43.3	6.6
Dental services	100.0	95.5	95.5	52.7	42.8	—	4.5	2.5	2.0
Other professional services	100.0	67.1	57.4	22.4	35.1	9.7	32.9	24.4	8.5
Home health care	100.0	15.8	11.5	6.9	4.6	4.2	84.2	60.0	24.2
Drugs and other medical non-durables	100.0	83.8	83.8	66.2	17.6	—	16.2	8.6	7.6
Vision products and other medical durables	100.0	71.2	71.2	62.6	8.5	—	28.8	26.3	2.5
Nursing home care	100.0	48.2	46.3	45.2	1.1	1.9	51.8	31.3	20.5
Other personal health care	100.0	10.1	—	—	—	10.1	89.9	53.1	36.8
Program administration and net cost of private health insurance	100.0	80.1	78.6	—	78.6	1.5	19.9	12.3	7.6
Government public health activities	100.0	—	—	—	—	—	100.0	12.7	87.3
Research and construction	100.0	30.4	—	—	—	30.4	69.6	58.2	11.4
Research	100.0	5.9	—	—	—	5.9	94.1	83.3	10.9
Construction	100.0	79.0	—	—	—	79.0	21.0	8.5	12.5

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other	Total	Federal	State and local
			Total	Out of pocket	Private insurance				
2020					Amount in billions				
National health expenditures	$7,839.4	$3,776.1	$3,499.0	$1,287.6	$2,211.4	$277.2	$4,063.2	$3,074.5	$988.7
Health services and supplies	7,690.3	3,730.1	3,499.0	1,287.6	2,211.4	231.1	3,960.3	2,988.3	972.0
Personal health care	7,200.2	3,428.3	3,202.6	1,287.6	1,915.0	225.7	3,771.9	2,931.4	840.5
Hospital care	3,267.5	1,247.5	1,094.9	138.2	956.7	152.6	2,020.0	1,591.7	428.3
Physician services	1,861.6	928.8	928.3	279.7	648.5	0.5	932.8	817.0	115.8
Dental services	171.1	163.4	163.4	90.9	72.5	—	7.6	4.2	3.4
Other professional services	335.2	223.1	190.9	74.4	116.5	32.2	112.1	83.5	28.6
Home health care	127.4	15.6	11.4	6.6	4.8	4.2	111.8	80.7	31.1
Drugs and other medical non-durables	522.0	447.4	447.4	345.3	102.1	—	74.7	39.1	35.6
Vision products and other medical durables	75.5	51.3	51.3	45.2	6.2	—	24.2	22.4	1.8
Nursing home care	639.2	328.2	315.1	307.4	7.7	13.1	311.0	187.9	123.2
Other personal health care	200.7	23.0	—	—	—	23.0	177.7	105.0	72.8
Program administration and net cost of private health insurance	370.0	301.8	296.4	—	296.4	5.4	68.2	41.8	26.4
Government public health activities	120.2	—	—	—	—	—	120.2	15.0	105.1
Research and construction	149.1	46.1	—	—	—	46.1	103.0	86.2	16.8
Research	97.7	5.5	—	—	—	5.5	92.2	81.8	10.3
Construction	51.4	40.6	—	—	—	40.6	10.8	4.4	6.4
					Percent distribution				
National health expenditures	100.0	48.2	44.6	16.4	28.2	3.5	51.8	39.2	12.6
Health services and supplies	100.0	48.5	45.5	16.7	28.8	3.0	51.5	38.9	12.6
Personal health care	100.0	47.6	44.5	17.9	26.6	3.1	52.4	40.7	11.7
Hospital care	100.0	38.2	33.5	4.2	29.3	4.7	61.8	48.7	13.1
Physician services	100.0	49.9	49.9	15.0	34.8	0.0	50.1	43.9	6.2
Dental services	100.0	95.5	95.5	53.1	42.4	—	4.5	2.5	2.0
Other professional services	100.0	66.6	56.9	22.2	34.8	9.6	33.4	24.9	8.5
Home health care	100.0	12.2	8.9	5.2	3.7	3.3	87.8	63.4	24.4
Drugs and other medical non-durables	100.0	85.7	85.7	66.1	19.6	—	14.3	7.5	6.8
Vision products and other medical durables	100.0	68.0	68.0	59.8	8.2	—	32.0	29.6	2.4
Nursing home care	100.0	51.3	49.3	48.1	1.2	2.1	48.7	29.4	19.3
Other personal health care	100.0	11.4	—	—	—	11.4	88.6	52.3	36.3
Program administration and net cost of private health insurance	100.0	81.6	80.1	—	80.1	1.5	18.4	11.3	7.1
Government public health activities	100.0	—	—	—	—	—	100.0	12.5	87.5
Research and construction	100.0	30.9	—	—	—	30.9	69.1	57.8	11.3
Research	100.0	5.6	—	—	—	5.6	94.4	83.8	10.6
Construction	100.0	79.0	—	—	—	79.0	21.0	8.5	12.5

See footnotes at end of table.

Table 9—Continued

National health expenditures, by source of funds and type of expenditure: United States, selected calendar years 1980-2030

Year and type of expenditure	Total	Private					Government		
		All private funds	Consumer			Other	Total	Federal	State and local
			Total	Out of pocket	Private insurance				
2030					Amount in billions				
National health expenditures	$15,969.6	$7,753.0	$7,186.2	$2,725.3	$4,460.9	$566.8	$8,216.7	$6,321.0	$1,895.6
Health services and supplies	15,691.8	7,662.7	7,186.2	2,725.3	4,460.9	476.6	8,029.1	6,164.4	1,864.7
Personal health care	14,753.7	7,061.5	6,596.1	2,725.3	3,870.8	465.4	7,692.2	6,059.3	1,633.0
Hospital care	6,680.8	2,558.1	2,245.7	303.8	1,941.9	312.4	4,122.7	3,315.2	807.5
Physician services	3,845.0	1,927.1	1,925.9	602.6	1,323.3	1.1	1,918.0	1,689.1	228.9
Dental services	279.7	267.6	267.6	150.2	117.4	—	12.1	6.6	5.4
Other professional services	649.0	430.9	368.7	143.6	225.1	62.3	218.0	162.9	55.1
Home health care	287.5	38.7	28.3	15.9	12.4	10.4	248.7	178.7	70.1
Drugs and other medical non-durables	1,045.3	914.1	914.1	692.0	222.1	—	131.2	67.5	63.7
Vision products and other medical durables	127.4	82.1	82.1	72.2	9.9	—	45.3	42.4	2.9
Nursing home care	1,477.4	795.6	763.7	745.0	18.7	31.8	681.9	410.8	271.1
Other personal health care	361.6	47.4	—	—	—	47.4	314.3	186.1	128.2
Program administration and net cost of private health insurance	732.1	601.2	590.1	—	590.1	11.2	130.9	79.8	51.1
Government public health activities	206.0	—	—	—	—	—	206.0	25.3	180.6
Research and construction	277.8	90.2	—	—	—	90.2	187.6	156.7	30.9
Research	175.6	9.5	—	—	—	9.5	166.1	148.0	18.2
Construction	102.2	80.7	—	—	—	80.7	21.5	8.7	12.8
					Percent distribution				
National health expenditures	100.0	48.5	45.0	17.1	27.9	3.5	51.5	39.6	11.9
Health services and supplies	100.0	48.8	45.8	17.4	28.4	3.0	51.2	39.3	11.9
Personal health care	100.0	47.9	44.7	18.5	26.2	3.2	52.1	41.1	11.1
Hospital care	100.0	38.3	33.6	4.5	29.1	4.7	61.7	49.6	12.1
Physician services	100.0	50.1	50.1	15.7	34.4	0.0	49.9	43.9	6.0
Dental services	100.0	95.7	95.7	53.7	42.0	—	4.3	2.4	1.9
Other professional services	100.0	66.4	56.8	22.1	34.7	9.6	33.6	25.1	8.5
Home health care	100.0	13.5	9.8	5.5	4.3	3.6	86.5	62.2	24.4
Drugs and other medical non-durables	100.0	87.4	87.4	66.2	21.2	—	12.6	6.5	6.1
Vision products and other medical durables	100.0	64.4	64.4	56.7	7.7	—	35.6	33.3	2.3
Nursing home care	100.0	53.8	51.7	50.4	1.3	2.2	46.2	27.8	18.4
Other personal health care	100.0	13.1	—	—	—	13.1	86.9	51.5	35.4
Program administration and net cost of private health insurance	100.0	82.1	80.6	—	80.6	1.5	17.9	10.9	7.0
Government public health activities	100.0	—	—	—	—	—	100.0	12.3	87.7
Research and construction	100.0	32.5	—	—	—	32.5	67.5	56.4	11.1
Research	100.0	5.4	—	—	—	5.4	94.6	84.3	10.3
Construction	100.0	79.0	—	—	—	79.0	21.0	8.5	12.5

NOTES: 0.0 denotes less than $50 million. Research and development expenditures of drug companies and other manufacturers and providers of medical equipment and supplies are excluded from "research expenditures," but are included in the expenditure class in which the product falls. Numbers may not add to totals because of rounding.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Table 10

Medicare and Medicaid expenditures, by year and type of expenditure: United States, selected calendar years 1990-2030

Year and type of expenditure	1990		1991		1992	
	Medicare	Medicaid	Medicare	Medicaid	Medicare	Medicaid
	Amount in billions					
Health services and supplies	$111.2	$75.2	$122.9	$98.2	$137.7	$129.3
Personal health care	108.9	71.3	120.3	94.1	135.0	124.6
Hospital care	68.3	28.5	74.3	40.6	82.1	57.5
Physician services	30.0	5.2	33.9	6.7	39.1	8.3
Dental services	—	0.7	—	0.9	—	1.2
Other professional services	3.1	2.0	3.5	2.8	4.0	3.6
Home health care	2.9	2.2	3.6	2.6	4.3	3.3
Drugs and other medical non-durables	—	4.9	—	6.1	—	7.3
Vision products and other medical durables	2.2	—	2.4	—	2.8	—
Nursing home care	2.5	24.1	2.6	28.7	2.7	34.4
Other personal health care	—	3.6	—	5.7	—	9.1
Program administration	2.3	3.8	2.6	4.2	2.7	4.7
	Percent of national expenditures					
Health services and supplies	17.3	11.7	17.2	13.8	17.3	16.3
Personal health care	18.6	12.2	18.5	14.5	18.6	17.1
Hospital care	26.7	11.1	26.1	14.2	25.3	17.7
Physician services	23.9	4.2	24.6	4.8	25.7	5.5
Dental services	—	2.2	—	2.5	—	3.2
Other professional services	9.7	6.5	9.7	7.9	9.9	8.9
Home health care	41.8	31.4	42.8	31.0	41.9	32.4
Drugs and other medical non-durables	—	9.1	—	10.2	—	11.2
Vision products and other medical durables	17.8	—	19.4	—	21.2	—
Nursing home care	4.7	45.4	4.3	48.2	4.1	51.8
Other personal health care	—	31.9	—	41.4	—	51.8
Program administration	5.9	9.9	6.1	9.8	6.0	10.5
	Percent of program expenditures					
Health services and supplies	100.0	100.0	100.0	100.0	100.0	100.0
Personal health care	97.9	94.9	97.9	95.7	98.0	96.3
Hospital care	61.5	37.9	60.4	41.3	59.6	44.4
Physician services	27.0	7.0	27.6	6.8	28.4	6.4
Dental services	—	1.0	—	0.9	—	1.0
Other professional services	2.8	2.7	2.8	2.9	2.9	2.8
Home health care	2.6	2.9	3.0	2.7	3.1	2.6
Drugs and other medical non-durables	—	6.6	—	6.2	—	5.6
Vision products and other medical durables	1.9	—	2.0	—	2.0	—
Nursing home care	2.2	32.1	2.1	29.2	2.0	26.6
Other personal health care	—	4.8	—	5.8	—	7.0
Program administration	2.1	5.1	2.1	4.3	2.0	3.7

	1993		1995		2000	
	Medicare	Medicaid	Medicare	Medicaid	Medicare	Medicaid
	Amount in billions					
Health services and supplies	$152.9	$150.6	$191.0	$202.2	$327.6	$359.8
Personal health care	150.0	145.2	187.8	195.5	323.3	348.6
Hospital care	90.7	67.2	113.6	91.8	191.0	162.1
Physician services	44.0	9.8	55.7	13.5	104.1	24.9
Dental services	—	1.4	—	1.7	—	2.5
Other professional services	4.4	4.3	5.5	6.1	9.0	12.5
Home health care	5.0	4.3	5.9	6.8	9.0	15.8
Drugs and other medical non-durables	—	8.4	—	11.1	—	19.5
Vision products and other medical durables	3.1	—	3.8	—	5.8	—
Nursing home care	2.9	38.4	3.2	46.9	4.4	72.1
Other personal health care	—	11.4	—	17.6	—	39.2
Program administration	2.9	5.4	3.2	6.6	4.3	11.2
	Percent of national expenditures					
Health services and supplies	17.5	17.2	17.8	18.9	19.3	21.2
Personal health care	18.7	18.1	19.0	19.8	20.6	22.2
Hospital care	25.3	18.7	25.8	20.8	27.2	23.1
Physician services	26.3	5.9	27.0	6.5	30.2	7.2
Dental services	—	3.4	—	3.6	—	4.0
Other professional services	9.9	9.5	9.9	11.1	10.9	15.2
Home health care	40.4	35.1	35.9	41.5	29.5	51.9
Drugs and other medical non-durables	—	11.8	—	13.2	—	15.6

See source at end of table.

Table 10—Continued

Medicare and Medicaid expenditures, by year and type of expenditure: United States, selected calendar years 1990-2030

Year and type of expenditure	1993		1995		2000	
	Medicare	Medicaid	Medicare	Medicaid	Medicare	Medicaid
Vision products and other medical durables	22.2	—	23.2	—	23.9	—
Nursing home care	3.9	51.6	3.5	50.5	3.0	49.0
Other personal health care	—	56.1	—	63.0	—	72.4
Program administration	5.9	11.2	5.7	11.8	5.1	13.3
			Percent of program expenditures			
Health services and supplies	100.0	100.0	100.0	100.0	100.0	100.0
Personal health care	98.1	96.4	98.3	96.7	98.7	96.9
Hospital care	59.3	44.6	59.5	45.4	58.3	45.0
Physician services	28.8	6.5	29.2	6.7	31.8	6.9
Dental services	—	0.9	—	0.8	—	0.7
Other professional services	2.9	2.8	2.9	3.0	2.7	3.5
Home health care	3.2	2.9	3.1	3.4	2.8	4.4
Drugs and other medical non-durables	—	5.6	—	5.5	—	5.4
Vision products and other medical durables	2.0	—	2.0	—	1.8	—
Nursing home care	1.9	25.5	1.7	23.2	1.3	20.0
Other personal health care	—	7.6	—	8.7	—	10.9
Program administration	1.9	3.6	1.7	3.3	1.3	3.1

	2010		2020		2030	
	Medicare	Medicaid	Medicare	Medicaid	Medicare	Medicaid
			Amount in billions			
Health services and supplies	$862.9	$744.8	$1,950.0	$1,442.4	$4,133.9	$2,856.2
Personal health care	855.3	721.6	1,936.3	1,397.6	4,109.5	2,767.5
Hospital care	470.3	339.6	1,078.9	677.0	2,328.3	1,333.9
Physician services	324.3	53.5	733.9	99.9	1,533.5	179.0
Dental services	—	4.4	—	7.1	—	11.1
Other professional services	21.9	27.8	45.0	55.2	88.4	106.6
Home health care	20.2	33.3	44.2	67.4	96.3	151.9
Drugs and other medical non-durables	—	36.9	—	65.1	—	111.7
Vision products and other medical durables	10.9	—	21.3	—	40.7	—
Nursing home care	7.7	146.5	13.1	283.8	22.3	625.4
Other personal health care	—	79.7	—	142.1	—	247.9
Program administration	7.6	23.2	13.7	44.8	24.4	88.6
			Percent of national expenditures			
Health services and supplies	23.3	20.1	25.4	18.8	26.3	18.2
Personal health care	24.7	20.9	26.9	19.4	27.9	18.8
Hospital care	30.3	21.9	33.0	20.7	34.9	20.0
Physician services	38.2	6.3	39.4	5.4	39.9	4.7
Dental services	—	4.2	—	4.1	—	4.0
Other professional services	12.9	16.4	13.4	16.5	13.6	16.4
Home health care	31.7	52.3	34.7	52.9	33.5	52.9
Drugs and other medical non-durables	—	14.4	—	12.5	—	10.7
Vision products and other medical durables	24.8	—	28.1	—	31.9	—
Nursing home care	2.5	47.2	2.1	44.4	1.5	42.3
Other personal health care	—	72.9	—	70.8	—	68.5
Program administration	4.2	12.9	3.7	12.1	3.3	12.1
			Percent of program expenditures			
Health services and supplies	100.0	100.0	100.0	100.0	100.0	100.0
Personal health care	99.1	96.9	99.3	96.9	99.4	96.9
Hospital care	54.5	45.6	55.3	46.9	56.3	46.7
Physician services	37.6	7.2	37.6	6.9	37.1	6.3
Dental services	—	0.6	—	0.5	—	0.4
Other professional services	2.5	3.7	2.3	3.8	2.1	3.7
Home health care	2.3	4.5	2.3	4.7	2.3	5.3
Drugs and other medical non-durables	—	5.0	—	4.5	—	3.9
Vision products and other medical durables	1.3	—	1.1	—	1.0	—
Nursing home care	0.9	19.7	0.7	19.7	0.5	21.9
Other personal health care	—	10.7	—	9.9	—	8.7
Program administration	0.9	3.1	0.7	3.1	0.6	3.1

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Table 11

Factors accounting for growth in expenditures for selected categories of national health expenditures, by 10-year periods: United States, 1970-2030

Type of expenditure and period	Total	Economywide factors		Health sector-specific factors		
		General inflation[1]	Population	Utilization[2]	Intensity[3]	Sector-specific price inflation
Physician services			Percent distribution			
1970-1980	100.0	64.3	7.8	2.6	18.3	7.0
1980-1990	100.0	41.4	9.0	3.6	19.8	26.1
1990-2000	100.0	35.3	8.8	6.9	19.6	29.4
2000-2010	100.0	43.5	7.6	6.5	22.8	19.6
2010-2020	100.0	50.0	7.5	8.8	21.3	12.5
2020-2030	100.0	54.1	5.4	6.8	20.3	13.5
Inpatient hospital						
1970-1980	100.0	52.9	6.4	3.6	30.0	7.1
1980-1990	100.0	51.1	11.1	-34.4	52.2	20.0
1990-2000	100.0	42.4	10.6	-3.5	28.2	22.4
2000-2010	100.0	54.1	9.5	10.8	9.5	16.2
2010-2020	100.0	54.8	8.2	12.3	8.2	16.4
2020-2030	100.0	55.6	5.6	15.3	9.7	13.9
Outpatient hospital						
1970-1980	100.0	42.0	5.1	21.6	25.6	5.7
1980-1990	100.0	28.4	6.2	19.1	35.2	11.1
1990-2000	100.0	28.1	7.0	18.0	32.0	14.8
2000-2010	100.0	41.2	7.2	9.3	29.9	12.4
2010-2020	100.0	47.6	7.1	10.7	20.2	14.3
2020-2030	100.0	51.9	5.2	10.4	19.5	13.0
Nursing home excluding ICFs/MR						
1970-1980	100.0	53.6	6.5	22.5	15.2	2.2
1980-1990	100.0	47.9	10.4	1.0	29.2	11.5
1990-2000	100.0	34.6	8.7	10.6	30.8	15.4
2000-2010	100.0	51.9	9.1	11.7	19.5	7.8
2010-2020	100.0	53.3	8.0	10.7	20.0	8.0
2020-2030	100.0	46.0	4.6	25.3	17.2	6.9
Drugs and other medical non-durables						
1970-1980	100.0	78.7	9.6	0.0	35.1	-23.4
1980-1990	100.0	48.9	10.6	0.0	1.1	39.4
1990-2000	100.0	42.9	10.7	0.0	11.9	34.5
2000-2010	100.0	54.8	9.6	0.0	20.5	15.1
2010-2020	100.0	54.8	8.2	0.0	21.9	15.1
2020-2030	100.0	56.3	5.6	0.0	22.5	15.5

[1]General inflation is measured by the gross domestic product implicit price deflator.
[2]Per capita days or visits.
[3]Real services per day or per visit.

NOTE: ICFs/MR is intermediate care facilities for the mentally retarded.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

Summary

New projections of Medicare and Medicaid expenditures over the next 40 years imply that health spending will consume a larger share of our Nation's output than had previously been projected. In the scenario described in this article, continuation of current laws and trends will produce an expenditure of $1.7 trillion in the year 2000, an amount equal to 18.1 percent of that year's GDP. By the year 2030, when the baby boom generation has reached their seventies and eighties, health could account for 32 percent of the GDP.

These figures convey a sense of the momentum built into today's health care financing and delivery systems. Because it is very unlikely that those systems will remain unchanged over the next 40 years, the numbers we have projected should not be seen as predictions for the future. They do, however, give policymakers a basis for evaluating the costs or savings of proposed legislative or regulatory changes.

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